Logic, Language & Reality

Indian Philosophy and Contemporary Issues

BIMAL KRISHNA MATILAL

Excerpts from Reviews and Comments

What makes the subject matter most interesting for us (linguists) is the fact that in the tradition of India, from very ancient times the inter-connectedness of logic, grammar and the theory of knowledge was always more intimate, and a deeper understanding of such issues was prevalent.

Contrastive Linguistics
Vol. 12, 1987 Issue V

—MAXIM STAMENOV
Institute of Bulgarian Languages
Sophia

It (the book) contains far more information than I have yet been able to absorb, but it certainly came at the right time. Having been bombarded during my trip through India with philosophers who claimed the relevance of the Sanskrit tradition to contemporary philosophical problems, I was delighted to have your expert scholarship at hand to test these claims. I have to confess I am not yet convinced, but shall continue, in my amateur way, to work away at it.

—Professor DONALD DAVIDSON
University of California, Barkeley

Professor Matilal in his book has discussed so many problems, examined so many alternative interpretations, and suggested so many solutions that it is impossible to mention all of them in one paper.

—Professor S. BHATTACHARYA
Journal of India Council of Philosophy Research
Vol. V, No. 1, 1987

......(The book) contains much Sanskritic scholarship that will make it more immediately accessible to the Indologist.
......scholars of Indian philosophy will undoubtedly find this book extremely worthwhile.

Journal of Asian Studies

—ROY W. PERRETT
University of Otago
New Zealand

MOTILAL BANARSIDASS PUBLISHERS PVT. LTD.

LOGIC, LANGUAGE AND REALITY

Indian Philosophy and Contemporary Issues

LOGIC, LANGUAGE AND REALITY

Indian Philosophy and Contemporary Issues

BIMAL KRISHNA MATILAL

MOTILAL BANARSIDASS PUBLISHERS
PRIVATE LIMITED • DELHI

First Edition: Delhi, 1985
Second Edition: Delhi, 1990

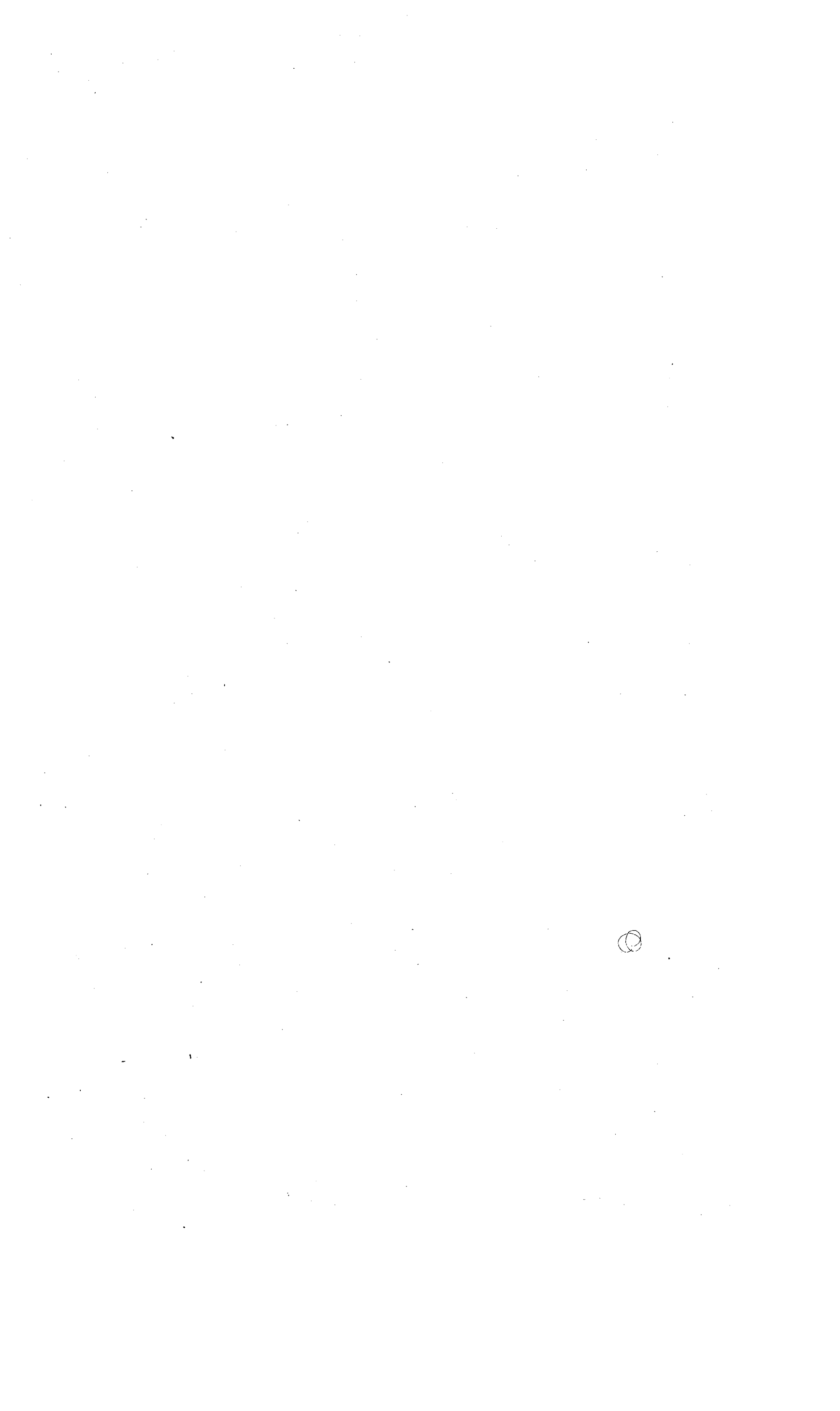
ISBN: 81-208-0008-7 (Cloth)
ISBN: 81-208-0717-0 (Paper)

Also available at:
MOTILAL BANARSIDASS
41 U.A., Bungalow Road, Jawahar Nagar, Delhi 110 007
120 Royapettah High Road, Mylapore, Madras 600 004
24 Race Course Road, Bangalore 560 001
Ashok Rajpath, Patna 800 004
Chowk, Varanasi 221 001

PRINTED IN INDIA
BY JAINENDRA PRAKASH JAIN AT SHRI JAINENDRA PRESS, A-45 NARAINA INDUSTRIAL AREA, PHASE I, NEW DELHI 110 028 AND PUBLISHED BY NARENDRA PRAKASH JAIN FOR MOTILAL BANARSIDASS PUBLISHERS PVT. LTD., BUNGALOW ROAD, JAWAHAR NAGAR, DELHI 110 007

FOR

TAMAL AND ANVITA



CONTENTS

PREFACE TO THE SECOND EDITION

I take this opportunity to note the important issues raised by some of my reviewers and try to answer very briefly a few constructive criticisms made by them.

The new sub-title underlines the fact that I have attempted to reassess the problems of traditional and classical Indian philosophy in contemporary setting. Hence it neither is a book on history of philosophy nor a mere philological research on texts of Indian philosophy. In the introduction to the first edition, I emphasized upon philological issues. But that is because it has been my firm belief that without sound philological grounding original research in Indian philosophy is next to impossible. I have studied the texts, however, as a philosopher.

It is true, as Professor Pranab Sen in his review in *Mind* January 1989 has noted, that in Chapters Two, Three and Five, I have dealt with what is 'particularly germane to contemporary philosophic concerns'. However, in Chapter One, I deal with the history of Indian logic, for history of logic in any tradition, I believe, has, unlike the history of ideas, a separate philosophical interest of its own. In Chapter Four, I have been concerned with certain broader question of Indian philosophy—the goal of human life, the idea of freedom, *mokṣa* and *saṁsāra* and the notion of the self and non-self. Although these problems are typically Indian, I still believe they ought to be of interest to some modern philosophers (if, however, 'philosophy' is narrowly defined to mean simply analytical philosophy or the so-called 'naturalism' in modern philosophy then this would not be the case).

In view of certain critical remarks in the reviews, I have reformulated some sentences in a couple of places. For example, on page 211 my reformulation answers the objection raised by Professor S. Bhattacharya in his 'Critical Notes' in J.I.C.P.R. in 1987, and others. I had said that a non-judgmental cognitive state is not *known* to us. It has been pointed out that this goes against the Nyāya view for it is said in Nyāya that such a state is 'known' by inference. I still insist that such a state is *not known*

in the same way a cognitive state is usually known, i.e., by an *inner* perception (called *anuvyavasaya*), according to Nyāya. This type of non-judgmental cognition is *not* open to such *inner* perception. The inference (which is given in the text) establishes simply the fact that such an experience (a non-judgmental cognition) sometimes takes place, even if the cognizer himself remains unaware of it at the moment of its origin (or in the immediately following moment). However, it is true that such a cognitive state as a fact is among the *knowables*, and sometimes such knowledge of it comes through inference.

I also accept Sen's point (*Mind*, 1989, p. 151) about the major concern of the Indian logicians with 'education' (a variety of *induction*) which I have called 'singular inference' following Quine. But I hasten to add that Dinnaga and the logical theories inspired by him did accommodate both kinds of inference: those that have a singular proposition (sentence) as conclusion and those that have a universal proposition (e.g., 'All noises are impermanent') as conclusion. In Navya-nyāya, this distinction is noted with the help of the following terminology. What we call a singular or a particular proposition today is characterized by Navya-nyāya as a case where the inferred property (*sadhya*) is co-present with the delimiting property of the subject or *pakṣa*. Thus, in 'the hill has fire on it' the inferred property, i.e., fire (presence of fire), is co-present with the delimiting property, hill-ness, of the subject, i.e., the hill. This is satisfied if and only if there is at least one locus, the particular hill in question, where hillness is co-present along with fire. What we call a universal proposition is treated as one where the inferred property is present in all *loci* of the delimiting property of the subject of the *pakṣa*. In other words, 'all noises are impermanent' is analysed as the case where impermanence, the inferred property, is present in all *loci* where noise-hood, the delimiting property of the subject, is present. This means that anything that is characterized by noise-hood has also impermanence. This does not fully answer the question raised by Sen. But I wish to discuss this issue more elaborately in a forthcoming book of mine, *The Development of Logic in India*.

The general form of the inference studied by both the Nyāya and the Buddhist (as well as by Saṁkhya, Mīmāṁsā and Jaina) was: *A* is *B* because of *C*. This can be unpacked into what is

called *nyāya-vakyā* or Indian syllogism as:

A is *B*.
Because of *C*.
Whatever is *C* is also *B*, e.g. *X*.
(*A* is such, i.e., *C*,
Therefore *A* is so, *C*: i.e. *B*)

This is similar to a deductive argument and ensures deductive certainty. Indian logicians however showed lack of interest in the deduction technique, and instead concentrated upon the examination of truth and falsity of the universal premiss. They insisted that the supporting examples, both positive and negative, would be necessary. Besides, they left it open that a counter-example, if it can be found, would falsify the universal premises. This is what I have called the empirical character of Indian logic.

Regarding the question of universals, I wish to add the following. I have chosen, following Quine, the 'natural kind' reading of the Nyāya theory of universal, while Sen prefers, the following Strawson, the 'sortal' reading of the Nyāya universals. I now believe both readings are possible, and in either case, some modifications of the traditional Nyāya doctrine would be required. My preference for the 'natural kind' reading is based upon the fact that I am not sure whether the reality of sortal universals can be maintained and argued for against the Buddhist alternative, the *apoha* theory of Dinnaga and Dharmakīrti. Again, the matter requires more careful study, which I intend to do later.

Apart from logic and theories of knowledge, Indian philosophy was intimately connected with a sort of soteriology. This may divulge the pre-modern character of Indian philosophy. But the issues raised in this context are important to get a well-rounded picture of the subject. I have discussed these issues in Chapter 4. I believe this balances our modern discussion of Indian philosophy, the charge of one-sidedness may thus be answered. I have not (consciously) distorted anything, but I claim originality in my presentation and in relating some of the topics with some contemporary issues. On the whole in our pursuit of modernity and the post-modern trend, the authority of the past should not be

forgotten lest we repeat ourselves and repeat even the mistakes of our predecessors.

4 September, 1989

All Souls College,
Oxford

INTRODUCTION

This is a book on Indian philosophy. Its aim is to combine the discipline of philosophy with that of philological research. It is not, however, concerned primarily with historical research. The book deals with the problems of Indian philosophy—problems which are necessarily philosophical, in the sense of being logical, epistemological, ontological and soteriological. All the problems discussed here are interconnected in some way or other, and it is reasonable to expect that a systematic account of classical Indian philosophy will emerge from a discussion of such topics.

The book is meant for philosophers along with those interested in Sanskrit, Indian Studies and what may be called a global approach to the study of philosophy. I have begun with the logical theories of ancient and medieval India. 'Logic' is used in this context to mean the study of inference-patterns, rules of debate, points of controversy, sophistical arguments etc. Some may object to our use of the term 'logic' in this rather broad sense. In using this term, however, I have been guided by other recognized experts in the field. Thus, I.M. Bochenski has remarked in his *History of Formal Logic*:

> "Formal logic (*Nyāya-śāstra*) developed in India, as in Greece, from the methodology of discussion. Such a methodology was already systematically constructed in the second century B.C. The first ideas which can be said to be formal-logical occur indeed as early as the *Vaiśeṣika-sūtra* (first century A.D.), but the history of Indian formal logic properly begins with the *Nyāya-sūtra* (edited in the second century A.D.). This 'logical' sūtra (so characterized by its very name) was the foundation of Indian logical thought." (p. 417)

Problems of inference lead to the discussion of philosophical logic. Historically, the early Nyāya in India was succeeded by

what we call Navya-nyāya in the 12th-13th century A.D. Philosophers of this period were involved in the discussion of such problems as empty terms, reference-failure, double negation, concomitance, definition, classification and essences. All these issues constitute the second chapter here.

Logical theories of the above kind developed in the background of a theory of knowledge. Medieval philosophers of India (of such schools as Nyāya, Buddhist, Jaina and Mīmāṃsaka) had made extensive study of the problem of knowledge. I have given only a very brief account of it in the third chapter. As I discuss these issues more extensively in another forthcoming book, *Perception* (Oxford University Press), I have only presented a sketch of the Indian theory of knowledge here. Several peculiarities of the Indian notion of knowledge and inference have been noted in this connection.

The problem of knowledge leads to the question of what is known. Chapter Four deals with ontological problems. I have tried to present them in a somewhat new, non-traditional, way. I have tried to bring together the three rival traditions: Hinduism, Buddhism and Jainism. F. Kafka once said:

> "The scriptures are unalterable and the comments often enough merely express the commentator's bewilderment."

My new attempt may therefore be taken to be an expression of my own 'bewilderment'. The discussion here inevitably leads to the discussion of such broader questions as soteriology, the meaning and goal of human life and the problem of suffering, *ālayavijñāna*, soul and karma. I have tried, within a very brief space, to present the provisional answers given to such questions by the classical Indian philosophers.

In the last chapter, I deal with the interrelation of grammar and philosophy in India. This is a significant character of classical Indian philosophy. The grammarians used to have considerable influence upon the philosophers. Some grammarians (e.g., Bhartṛhari) were well-known as philosophers. India was fortunate to have Pāṇini and the Pāṇinīyas. I have tried to give some examples to show how the insights of the grammarians were combined with the problems of the philosophy of language. In India, philosophy of language formed part of a comprehensive theory of knowledge, i.e., theory of *pramāṇas*, for one of the

ways of knowing what is the case is to *rightly* understand what is said by an expert and trust-worthy person (*āpta*). Following this line, the philosophers of knowledge in classical India established a connection between the traditional problems of knowledge and those in the philosophy of language. I conclude with a few comments on modality seminally involved in the notion of compatibility (*yogyatā*) and grammaticality of linguistic expressions.

In several places, I have repeated one very general theme, of which the different issues discussed in this book provide only different illustrations. The theme is the question of the relevance of Sanskritic study in the context of modern philosophical research. The importance of the study of the Sanskrit philosophical texts in modern context can hardly be overemphasized, specially when even among the professional philosophers, students and research-workers of India today, study of Indian philosophy, in the way I conceive it here, has been much neglected and largely forgotten. In support, I wish to quote from the writing of an erudite Indian pandit who was, in my humble opinion, also a creative philosopher of our country. Pandit Sukhlalji Sanghavi recommended openly "a non-partisan, historical-comparative study" of any Sanskrit philosophical text, and wrote in his Preface to *Advanced Studies in Indian Logic and Metaphysics* (1961):

> "I became firmly convinced that the study of any philosophical system inevitably demands certain pre-requisites and that these prerequisites include a fairly accurate understanding of the historical inter-relationship obtaining between the various philosophical systems of India."

Panditji's Preface should be read by all young scholars of our country, specially by those who wish to work on any system of Indian philosophy. I was myself deeply influenced by these comments of Panditji, when I started, about twenty years ago, my own research in Indian philosophy. One may add, however, to Panditji's comment that a reasonably clear understanding of modern (largely Western) philosophical problems should also be included among the 'prerequisites'.

In writing this book, I have incorporated, either partly or wholly, several articles written over the last twenty years and

published in various anthologies, festschrifts and commemoration volumes. As they are by and large unavailable and as they fit very well with the main argument of this book, I have included their revised and sometimes re-written versions here. On the whole, however, this is a new book, which aspires to be an informative introduction to Indian philosophical problems—problems that were discussed in the classical period.

Some portions of this book bear unmistakably the "vestiges" of my "Indian" English style. I make this remark in awareness of the fact that scholars in India as well as in other non-English speaking countries have used such a style for a pretty long time. In recognition of this fact, one well known Dutch scholar, C.A.O. van Nieuwenhuijze (whose own English, by the way, was perfect) made an elaborate comment which is worth quoting:

> "An additional remark on the linguistic appearance of this book should be made here. Contrary to what at a first glance may seem to be the case, this book is not in English. It has been written in a *lingua franca* of the Western world of the middle of the twentieth century, which by some is mistakenly called English, particularly as far as its vocabulary and syntax are concerned." (p. xii, Preface)

The remark has obviously been made facetiously. I wish to add simply that my hesitation has been overcome only by my awareness of the fact that the category of readers addressed to in this book has largely come to expect a style like this from Indian writers, specially those who deal with Sanskritic material.

In preparing this manuscript I have been considerably helped by my former student, Mr. P.K. Sen of Calcutta University, as well as by my wife, Karabi. I wish to thank both of them here.

CHAPTER ONE

LOGIC IN ANCIENT AND MEDIEVAL INDIA

§1.1 : Ancient Indian Logic and the Question of Greek Influence

Unlike the Arabic tradition in Philosophy, Indian philosophic tradition was never directly or indirectly influenced by either Aristotle's writings or Aristotelianism. Yet there is an "uncomfortable" affinity between many problems discussed by Aristotle (and Greek philosophers in general) and those discussed by the Classical Indian thinkers. In Greek writings we hear about the "Gymnosophists" (of India) who used to go around and debate on philosophical, religious and moral issues. But in Sanskrit or Pali writing we seldom hear about Greek philosophy; and never about a Greek philosopher.

I have used the expression "uncomfortable affinity" and perhaps I should explain it further. It was Professor Krisel, who remarked at the beginning of this conference, that from a distance many things, if not everything, look alike, but on closer scrutiny, when we get to the details, they are all found to be different. A distinction should be made between superficial similarity and what we may call essential affinity that deepens our philosophic understanding. Superficial similarity may mislead one into false beliefs. I shall cite a classic 'example' of such a false belief—an example that will be of some relevance to the main theme of this conference[1].

[1]Part of this section was verbally presented to the Round Table Conference on the occasion of the 23rd Centenary of Aristotle's Death held in Paris, organized by the UNESCO, May 31—June 3, 1978.

In 1920, S.C. Vidyābhūṣaṇa published his pioneering work *A History of Indian Logic* (Calcutta), where in Appendix B, he included his paper "Influence of Aristotle on the Development of the syllogism in Indian Logic". An earlier, brief, version of the same paper was published[1] in the *Journal of the Asiatic Society of Great Britain and Ireland.* Vidyābhūṣaṇa argued, on almost non-existent historical evidence, that Aristotle's works on logic migrated into India at three different periods, in bits and pieces, to "greatly" influence the Indian logic, especially its syllogism. This thesis of Vidyābhūṣaṇa was preposterous, and even Vidyābhūṣaṇa himself was vaguely aware of its absurdity. But the positive merit of Vidyābhūṣaṇa's paper was to show conformity and philosophic relevance of some aspects of what he called "The Syllogism in Indian Logic" on the one hand, and the "logical rules" of Aristotle on the other. Let me deal with a couple of specific points from Vidyābhūṣaṇa, for, they will be instructive as far as our purpose is concerned.

Vidyābhūṣaṇa first refers to the notion of *sthāpanā* and *pratisthāpanā* found in the logical section of the *Carakasaṁhitā* (c. first century A.D.), and rightly translates them as 'demonstration' and 'counter-demonstration'. But then he goes on to argue that these were taken from, or directly influenced by, Aristotle's two species of enthymemes, viz., demonstrative and refutative, found in *Rhetoric,* Bk. ii. Now it would be worthwhile to see what a 'demonstration' or a 'counter-demonstration' stands for in Indian logic. For, then we shall be in a better position to judge whether there was actually any influence here from Aristotle's *Rhetoric.*

The standard form of demonstration, as recorded in the *Caraka*, *Nyāyasūtra* and some other contemporary texts, is called the five-step argument procedure or 'five-membered argument' sentence (cf., *pañcāvayavavākya*). The steps or 'members', with illustrations, are as follows:

Demonstration (*sthāpanā*)

1. Statement of the thesis or what is to be proved (*pratijñā*)
   "The soul is eternal"
2. Statement of the reason (*hetu*)
   "For it is non-produced"

[1]See the reference in S.C. Vidyābhūṣaṇa's *A History of Indian Logic* (Calcutta, 1920), Appendix B.

3. Exemplification (*udāharaṇa*) or Citation of an example to illustrate the logical relation between step 1 and 2.
   "Whatever is non-produced is also eternal : witness, the sky (space)."
4. Application of the rule to the present case (*upanaya*)
   "The soul is also non-produced"
5. Conclusion (*nigamana*) : "Therefore the soul is eternal"

A counter-demonstration runs through the same five steps as follows :

1. "The soul is non-eternal."
2. "For, it is amenable to perception."
3. "What is amenable to perception is also non-eternal : witness, a pot."
4. "The soul is also amenable to perception."
5. "Therefore, the soul is non-eternal."

It is clear that what we have before us has very little to do with oratorial arguments or rhetorical enthymemes. It is also clear that the counter-demonstration is not a refutative enthymemes, for, nothing is refuted by it. It only establishes a proposition which happens to be logically contradictory to the thesis of the 'demonstration'. As Aristotle clearly says, the demonstrative enthymeme proves some affirmative or negative proposition, but the refutative kind disproves one. The first is formed by the conjunction of compatible propositions, while the second, by the conjunction of incompatible propositions (cf., *Rhetoric*, 1396 b 25-29). Besides in Bk. ii, ch. 23, of *Rhetoric*, Aristotle lists twenty-eight types of rhetorical enthymemes, none of which seems closer to the patterns given above. Thus, I think, it is impossible to imagine, as Vidyābhūṣaṇa implicitly suggested, that the author of the *Caraka* or the *Nyāyasūtra* had read a translated version of the *Rhetoric*. Besides, it is fairly certain that no translated version of either the *Rhetoric* or any part of the *Organon*, in any Indian language existed at that time.

It seems obvious, on the other hand, that demonstration or counter-demonstration is not very far from Aristotle's concept of dialectical argument. For, dialectic has been clearly explained by Aristotle as follows :

"Dialectical arguments are those that reason from premises

generally accepted, to the contradictory of a given thesis."
(*De Sophisticus Elenchus* 165 b 2-5)

Aristotle discussed the subject of demonstrative arguments in the *Analytics* and that of dialectic arguments in the *Topics* and sometimes in the *Metaphysics*. In the *Topics*, he notes that a demonstrative argument is where the premises from which the reasoning starts are 'true' and 'primary', or such that our knowledge of them has originally come through premises which are primary and true, whereas dialectical argument reasons from opinions that are generally accepted (100 a 27-30). He further elaborates that dialectic takes its start from plausible views (*endoxa*), as opposed to true and primary premises, and, thus, it is able to debate both sides of the case, regardless of which, if either, is the correct side[1] (S.E.ii, 172 a 15-21). The concept of 'demonstration' and 'counter-demonstration' in the *Caraka* is similarly an argument-pattern that reasons from premises generally accepted (see steps 2 and 3 in both cases), to prove a thesis or its counter-thesis, and thus debates both sides of the case. It is, for example, a generally accepted view that the soul, if it is believed to be different from the body, etc., is non-produced (at least, according to the Indian religious belief) and, therefore, since non-producedness and eternalness go together, the soul is eternal. Similarly, the soul is perceptible, for, according to presumably the materialist, it is identical with the body, and even for the non-materialists, it is argued that in such inner perception "I see *x*" the seer (i.e., the soul) is also seen, i.e., mentally perceived. It may be contended by the materialist that perceptible objects are generally perishable.

At the next stage, however, the debate moves to a different level, for, the proponent or the first disputant may claim that not all perceptibles are perishable; for example, universals (admitted to be perceptible by Nyāya philosophers) are not. The opponent or the second disputant may likewise answer by claiming that such perceptibles do not really exist. Thus, we can see that the Nyāya concept of 'demonstration' and 'counter-demonstration' is closer to that of dialectic than to that of rhetoric, although we shall have to call it 'the Indian dialectic'

[1]See also J.D.G. Evans, *Aristotle's Concept of Dialectic* (Cambridge, 1977), p.32.

for certain obvious peculiarities it has, viz., the requirement of 5 steps in each demonstration, the particular order of the steps that is given here and must be observed according to its exponents and so on.

While I talk of such parallelism, I do not intend to imply either the influence of, or borrowing from, Aristotle. For, the Indian theory of dialectic has, as modern researchers have shown, an independent and indigenous history of development of its own[1]. The so-called 'five-step' argument-pattern was reached during the time of the *Nyāyasūtra* through the process of gradual elimination and critical modification of some elaborate earlier model or models (with ten or more steps), which were presented in the earlier texts (cf., reference to one model in Vātsyāyana and the *Yuktidīpikā*; two other models in Bhadrabāhu : *Daśavaikalika-niryukti*)[2]. Besides, it is easily discernible that the 'five-step' demonstration differs from the syllogistic demonstration of Aristotle in some important respects, although the basic principle of inference involved in syllogism need not be different from that in 'five-step' demonstration. Let me illustrate the 'five-step' demonstration of the *Nyāyasūtra* :

Example I

1. There is fire on this mountain.
2. For, there is smoke there.
3. Smoke goes with fire always (or, in all cases, or in all places) : witness, kitchen[3].
4. This is also a case of smoke.
5. Therefore, there is fire there (on the mountain).

We can call this to be a positive demonstration where an affirmative thesis is established. The *Nyāyasūtra* provides also for a negative demonstration, where a negative thesis is reached as the conclusion. I shall illustrate it with the help of Uddyotakara, ignoring Vātsyāyana's rather mistaken interpretation[4].

[1]One may consult E. Solomon's *Indian Dialectics*, Ahmedabad, for the historical materials relevant to such a study.

[2]For Bhadrabāhu, see Vidyābhūṣaṇa as well as E. Solomon.

[3]I am taking the liberty of interpreting this step as 'embodying a universal proposition with an example. This is generally recommended by traditional (Sanskrit) scholarship. And I believe this to be an essential part of the *nyāya* in the *Nyāya-Sūtras*.

[4]Vātsyāyana's statement of the negative example is inaccurate and misleading in many places.

Example II

1. This body is not without a soul.
2. For, this body is not without life.
3. Lack of a soul goes always, etc., with lack of life, witness : a piece of rock.
4. This is not so (not without life).
5. Therefore, this is not without a soul.

To underline the essential form of these arguments, we may represent them schematically as follows :

I

1. *A* (or, *A* applies here).
2. Because *B* (or, *B* applies here).
3. *B* goes with *A* always, or in all cases, or in all places; witness case *C*.
4. It is a case of *B*.
5. Therefore, it is a case of *A*.

II

1. Not *A* (or, *A* does not apply here).
2. Because not *B* (or, *B* does not apply here).
3. *A* goes with *B* always, etc., witness *C*.
4. It is not so (not a case of *B*).
5. Therefore, it is not a case of *A*.

It is easy to see that both I and II (i.e., both examples) can be transformed to fit into Aristotle's first figure and, thus, I can be mapped into Barbara and II into Celarent. But, such transformations, though certainly permissible and legitimate, disregard certain important and specific characters of the model of arguments examined by the Indian logicians.

Let me point out at least two significant features of the Indian model, features that would not be immediately visible in their mappings in the Aristotelian system, Barbara, and Celarent. First, instead of presenting the thesis or conclusion in the usual subject-predicate form, I have presented it, following the Indian tradition, in what may be called a 'property-location' form. The theory is operating mainly with the predicate and the reason, i.e., the major term and the middle term in Aristotle's terminology. The role of the so-called minor term, if there is any

such role here at all, is quite different (see F. Staal[1]). The major term or the 'predicate' (*sādhya*) is being used here to *apply* to a (particular) case or a (particular) place on the ground that the middle term or the 'reason' (*hetu*) so applies. This claim is being supported in the 'third' step by underlining and exemplifying the invariable togetherness of the 'reason' with the 'predicate'. In the second case, the 'predicate' is being used not to apply to a case on the ground that the 'reason' does not apply. And this is supported in the third step by underlining and exemplifying the invariable togetherness of the lack of the 'predicate' with the lack of the 'reason'. The so-called minor term is introduced here only by such expressions as 'here', 'there', 'in this case' or 'in this place'. But the mapped images of the two examples in Barbara and Celarent would be read as follows :

I

All S are F
This (M) is S
Therefore, this (M) is F
(where S = smoking things, F = things with fire,
M = the mountain).

II

No L is S
This (B) is L
This (B) is not S
(where L = Living things, S = soulless, B = body).

This brings us to the second major contrast. The thesis/conclusion in the *Nyāyasūtra* demonstration is what is called a singular proposition, which is distinct from both the universal (using such quantifiers as "all" or "each") and the particular (using "some") proposition. In Aristotle's system, however, the conclusion is either a universal proposition ('A' or 'E') or a particular one (using 'some'). The singular propositions are assimilated into either positive or negative universals, 'A' or 'E', so that the syllogistic rules may work. In the early

[1]See F. Staal, "The Concept of Pakṣa in Indian Logic", *Journal of Indian Philosophy*, August, 1973.

Indian system, however, the conclusion is given, more often than not, in a singular demonstrative form, such as, "This is *A*" or "There is *A* here/there". Even a universal proposition, such as, "All noises are temporary" or "Noise is temporary" is assimilated into a singular form by such rephrasings as :

"There is temporariness in noise."
or "There is temporariness in whatever has noiseness."
or "Temporariness goes with noiseness always (in all cases)."

Thus, it is that when we focus our attention upon such details and contrasts, the idea of Aristotle's influence upon the Indian theory of logic seems highly improbable. In fact, we can almost be certain and would refute such a hypothesis, when we consider the complete lack of any evidence of any of Aristotle's work being translated into an Indian language (Sanskrit, Pali or Prakrit) of that time. Besides, while various views are meticulously referred to, there has not been even an indirect reference to any Greek view in any of the texts.

Although my conclusion about the influence of Aristotle on ancient Indian logic or philosophy is negative, I have a positive view about the question of relevance and usefulness of the study of Aristotle for the study of the history of ancient Indian logic and dialectic. It is true that these two traditions, both ancient, are independent of each other. But, because of this independent development, study and understanding of the one is bound to illuminate understanding of the other. Besides, it seems to be widely recognized now that the study of the history of ancient philosophy can be combined with the first-hand study of philosophical problems and questions, to the advantage of progress in both enquiries (as Professor Bambrough has argued in his Preface to *New Essays on Plato and Aristotle*[1]). In this context, I wish to add that it is also time to realize that the study of ancient Indian philosophy, where similar philosophical problems have been examined and studied with great interest in precision and analysis, may also be relevant and advantageous in a similar way.

[1]Bambrough, J.B., *New Essays on Plato and Aristotle*, London (Routledge and Kegan Paul), 1965.

§1.2 : Rule of Dialectic and Debate

I have chosen the term 'dialectic' to refer to the art of philosophic disputation in ancient India, as this was obviously the Indian counterpart of the Greek art of discussion or logical controversy. Philosophical thoughts in ancient times filtered through the art of disputation and this was as much true of ancient Greece as it was of ancient India. But as in the case of many other concepts, the concept of Indian dialectic has only a 'family resemblance' with the notion of dialectic found in the writings of Plato and Aristotle. Let me first explain the Indian concept of philosophic debate, and the kind of arguments I shall be calling 'dialectic'.

During the *śramaṇa* (post-Upaniṣadic) period of Indian philosophy, the intellectual climate was brisk, critical and controversial. Topics that came under fire were not only the organized religion and ritualism of Vedic orthodoxy, but also the established social codes and moral norms, as well as the knowledge-claims regarding the final destiny of man. In such an environment, debate—by which I mean controversy, question-and-answer, and discussion—was the order of the day. No subject was considered too sacred for criticism and refutation. These debates sometimes degenerated, as it must, into wrangling and bitter verbal fights. That might have been the reason for the Buddha in the *Nikāyas* to tell his pupils to avoid fruitless debates[1]. It was, however, not very easy in those days to avoid debates. That is why, in the *Upāyahṛdaya*, one of the early Buddhist debate manuals, the author first raises the objection that one should not enter into a debate with others (*vādo na kartavyaḥ*) and argues elaborately that it is necessary to enter into a debate if one has to have any hope to maintain, defend and propagate one's own religious and philosophic convictions[2]. Not only that, ordinary people may be misled by a crafty debater into immoral and false beliefs. Therefore, some professional training in the art of debate is essential for a philosopher.

Manuals for the professional debate must have been written for different schools for training the debater in the types of

[1]Dighanikāya. I.33.

[2]*Upāyahṛdaya*, p.3, in G. Tucci's *Pre-Dignāga Buddhist Texts on Logic from Chinese Sources*, Baroda, Oriental Institute, 1929.

debate, types of arguments, tricky devices of debate and the checks or grounds for censure or defeat. The canons of Buddhism and Jainism contain frequent references to many technical terms of the art of disputation. Texts like *Kathāvastu* (at the Buddhist council at c. 255 B.C.) report about the various topics for debate for the Buddhist monks as well as the various ways of debating. Early manuals for debate, however, are not extant. We have some crystallized versions of them, probably from two distinct sources, in such texts as *Upāyahṛdaya*, Asaṅga's *Yogācārabhūmi*, *Caraka*, and *Nyāyasūtras*. In giving a brief exposition on the rules and procedures of debate, I shall follow the *Nyāyasūtras*, because the discussion here appears to be more systematic than others.

Originally, it seems to me, debate was a respectable vocation and a natural expectation when two philosophers met in a friendly session. Thus Janaka, the philosopher-king of the Bṛhadāraṇyaka Upaniṣad, asked Yājñavalkya, who went to him one morning, "What is on your mind today, Yājñavalkya? Do you wish to receive cattle as gift ? or, do you wish to have a philosophic discussion with me on subtle matters?" Yājñavalkya replied, "I have come wishing both[1]." And then followed a friendly debate between them. The quality of the debate obviously depended upon the debaters or participants. Nāgasena, the Buddhist monk, made the following comment, probably facetiously, on the types of debate in reply to King Milinda's questions[2]:

Milinda : Reverend Sir, will you debate with me again ?

Nāgasena : If your Majesty will debate as a scholar, yes, but if you will debate as a king, no.

M. How is it then that scholars debate ?

N. When the scholars debate one with the other, your Majesty, there is summing up and unravelling, there is also defeat, and yet the scholars do not get angry at it. Thus do the scholars debate, your Majesty.

M. And how do the kings debate ?

N. When the kings debate, your Majesty, they state a

[1]See *Bṛhadāraṇyaka Upaniṣad*, 4th Adhyāya, 1st Brāhmaṇa.
[2]*Milinda-pañho*, 2.6.

proposition, and if anyone differs from them, they order his punishment saying, "Inflict punishment upon him." Thus, your Majesty, do the kings debate.

The Jaina canon, *Sthānāṅga*, refers to four types of refutation in a "tricky" debate. First, there is the trick of confounding the opponent by using verbiage and thereby trying to give him a 'run-around' (*yāpaka-hetu*)[1]. Second, there is the direct refutation with a valid reason by confounding one's trick (*sthāpaka-hetu*). Obviously, the first kind can be countered with the second. Third, there is the argument based upon equivocation (*vyaṁsaka-hetu*). This can be countered by the fourth kind, called *luṣaka*, by exploiting the means of equivocation and thereby confounding the opponent.

Socrates seems to have referred to this type of broad division of the debate procedure, as he mentions to Meno: (*Meno* 75 c-d)[2]:

> ".... if my questioner were one of the clever, disputatious, and quarrelsome kind, I should say to him, 'You have heard my answer. If it is wrong, it is for you to take up the argument and refute it'. However, when friendly people, like you and me, want to converse with each other, one's reply must be milder and more conducive to discussion. By that I mean that it must not only be true, but must employ terms with which the questioner admits he is familiar."

The debate between "friendly people", as Socrates calls it, does not seem very different from the kind of debate which Caraka described as *sandhāya sambhāṣā* 'debate among fellow-scholars who are friends'. And this is to be contrasted with what Socrates described as a debate with a disputatious person. In Caraka's terminology, this is the other kind of debate which is actually a verbal fight (*vigraha*).

Caraka broadly divides debates into two types[3]. The first is held with a fellow-scholar and in a spirit of co-operation (*sandhāya sambhāṣā*), but the second in a spirit of opposition and hostility (*vigṛhya*). Caraka gives an elaborate description

[1]E.A. Solomon, *Indian Dialectics*, Vol. I, Ahmedabad, p. 51ff.

[2]Plato, *Collected Dialogues* (Eds. Hamilton and Cairns).

[3]*Caraka-Saṁhitā* (ed. Yadava Sarma, Bombay, Nirnaya Sagar, 1933), p.303ff.

about what must be done by a debater before accepting to enter a debate, viz., examination of the strength of the opponent, the level of knowledge of the jury and the audience etc. It is humorously described how if the opponent or the audience is stupid, one can ensure victory by "a bag of tricks". This is obviously with reference to the hostile debate. Caraka further divides the hostile debate into *jalpa* and *vitaṇḍā*. In *jalpa*, both sides establish their position with reason and try to refute each other, e.g., one side maintains, "There is rebirth," while the other "There is no rebirth," and each side adduces reason to support as well as to controvert the other. In *vitaṇḍā*, one tries to censure the other without establishing anything.

Nyāyasūtra uses the same terms in slightly different senses, as we shall see presently[1]. The Nāyayasūtra classification of debate was more systematic and hence carried more authority in philosophical circles. The name for philosophic debate in *Nyāyasūtra* is *Kathā*, literally, speech, discussion. It notes three kinds of debate, *vāda*, *jalpa*, *vitaṇḍā*. The first kind corresponds to the friendly and congenial debate in Caraka (*sandhāya sambhāṣā*). It must have the following characteristics:

(1) There should be a thesis and a counter-thesis mutually opposing each other. Such a situation arises when mutually incompatible attributes are ascribed to the same locus (cf., *ekādhikaraṇa*, in Vātsyāyana). Uddyotakara further qualifies it by saying that such contradictory attributions are to be made with regard to the same locus *at the same time* and neither should be taken, for the purpose of the debate, to be finally decided.

(2) Proving, i.e., establishing, and disproving either of the theses, should be based upon evidence (*pramāṇa*) and argument (*tarka*).

(3) Each side should mention the standard five steps in the demonstration of one's reasoning. (Definition of these five steps are given elsewhere in the *Nyāyāsūtra*; see § 1.1).

(4) The reasoning should not entail contradiction with any tenet, or accepted doctrine.

This debate is usually to be held between the teacher and the students or between friends, where each participant is a seeker after truth (*tattvabubhutsu*).

[1]Nyāyasūtras 1.2.1-3.

One may wonder whether in this type of debate there may arise any censure or defeat-situation, for, surely it is not the nature of a seeker after truth to humiliate somebody with defeat. But remember what Nāgasena said to Milinda. There will be defeat or censure (*nigraha*) but no animosity, for it will be a fair game. The detection of a faulty reason is also recognized as a ground for defeat as *Nyāyasūtra* 5.2.32 informs. Since there will be refutation (disproving) of the untenable thesis, it will entail a 'defeat-situation', though based solely on sound evidence and argument. Besides, the third and the fourth characteristics indicate that there may be censure based on some additional grounds. Censure arises also when the debater fails to mention exactly all the five steps, i.e., mentions either less (in which case, it is a censure called 'insufficient', *hīna*), or more (in which case, it is a censure called 'redundant', *adhika*). The fourth characteristic, according to Uddyotakara, refers to the possibility of a censure based upon falsification of an accepted doctrine '*apasiddhānta*'[1].

The second type of debate, *jalpa*, is held between equals, i.e., two rival parties, and the explicit goal here is victory (*vijaya*) which may not necessarily coincide with the establishment of truth. Here we come to the discussion of 'tricky' debates that I have alluded to earlier. According to Uddyotakara, this debate will share only the first two characteristics of the first type, but not the last two. For, the last two characteristics imply that only certain types of censure are applicable here, not all the other types. The *jalpa* debate will include, apart from the first two, the following :

(J.3) Proving and rebuttal are based upon equivocation (*chala*), false parity of reasoning (*jāti*) and censure of all kinds.

It may be pointed out that equivocation and false or unwarranted parities can neither prove nor disprove anything. Uddyotakara concedes the point and says that the debater uses these tricks anyway, when he is unable to defend himself or censure the opponent on fair grounds. Since victory is the goal, such tricks are allowed according to the rules of the game, so to say. The onus is on the opponent to stop him or to "call his bluff". The *Nyāyasūtra* lists three varieties of

[1]Uddyotakara, under Nyāyasūtra 1.2.1-3.

equivocation, and twenty-four varieties of rejoinder based upon parity of reasoning (*jāti*)—(twenty in the *Upāyahṛdaya*). The ways of censuring a debate are given in the *Nyāyasūtra* as twenty-two. In other words, it notes that in twenty-two ways a debate might be brought to a close with a decision where one side wins and the other side loses. The debate is thus turned into a game and the soundness of the reason by itself cannot ensure victory, for, as in a game, the strategy of the debater becomes an important factor. Udayana says that the debater loses as soon as he shows his incompetence, i.e., he acts in a way that indicates his confusion[1]. Uddyotakara points out that even when the debater uses a sound reason he may not win, for, he may very well be confronted with a sophistical rejoinder, and being so confronted if he fails to assert his sound reason with confidence, he will lose[2].

Most of the twenty-two varieties of "checks" in the game of debate are, however, reasons of common sense. For example, starting a debate to prove a thesis, one cannot, in course of the debate, abandon the thesis or contradict it (cf. *pratijñā-hāni* or *pratijñā-virodha*). Nor can one be evasive (cf. *vikṣepa*), or, approve a contrary view (cf. *matānujñā*). But the most serious offence would be to use some unsound or fallacious reason. For, if that is detected, the debater immediately loses (cf., *hetvābhāsa*).

The third type of debate, *vitaṇḍā*, is more controversial in nature and, it seems to me, philosophically more interesting. It is said to be characterized by the lack of proving the counter-thesis. In other words, the debater here is engaged simply in the rebuttal of a position but does not give the opponent a chance to attack his own position. Some have thought, however, that this is, therefore, not a 'fair' game. Some even have maintained that since refutation (*dūṣaṇamātra*) is the sole purpose of this type of debate, the debater may claim not to have any position or belief in anything. This was, obviously, the way out for the sceptics, or the sceptic-sophists, or the sceptic-Buddhists (Mādhyamikas), the sceptic-monists, or even the sceptic-materialists (Cārvāka).

[1]Udayana, pp. 627-628 (*Nyāyadarśana*, A. Thakur's edn.).
[2]*Ibid.*, pp. 624-625.

This raises two related questions. First, is it possible to enter into a debate, without believing in anything, only for the sake of rebuttal? Second, even if it is possible, what value would it have, or what purpose (*prayojana*) would it serve, save victory, when such rebuttal is done by the questionable tricks established in *jalpa*, i.e., the second type of debate? In other words, what lasting value can we attach to a refutation that is based solely upon either equivocation or (false) parity of reasoning or both? The first question is more fundamental, and I shall have to revert to it on another occasion. I shall briefly comment on it following Vātsyāyana and Uddyotakara after I have dealt with the second question.

Regarding the second question, it was noted that a debater cannot simply refute the opponent by bluffs or tricks, unless of course he is allowed by the opponent to get away with it. But it so happens that some equivocations or reasoning based on parities, are the hardest things to recognize. It is conceivable that sometimes the debater is not trying to be presenting an unsound reasoning in refutation. Using modern jargons, we may call it a linguistic snare or a philosophic puzzle. I can cite at least two of the rejoinders based on parity (the last two in the *jāti* list), *nityasamā* and *kāryasamā*, which, under one interpretation, may generate genuine philosophic puzzles, rather than being tricky arguments for refutation.

The *Naiyāyikas* were not always very happy in supporting the *jalpa* debate as serving any good purpose. *Nyāyasūtra* 4.2.50 says enigmatically that the second or the third type of debate is meant for the protection of one's learning when the learner is apparently a young beginner so as not to be swept away by some tricky debater into believing the false doctrine. Sometimes it is emphasized that they render some negative benefit in the sense that by studying those tricky devices one can be on guard and not be easily defeated by such tricks, for, if the debater can uncover the trick of the opponent he wins. In any case, in the Buddhist tradition, Dharmakīrti (in *Vādanyāya*) explicitly denounces such tricks, and he has every reason to do so[1]. But as I have already noted that sometimes philosophers use arguments, which are seemingly plausible and

[1]Dharmakīrti, *Vādanyāya*, (ed. Dwarikadas Sastri), Varanasi, 1972.

it takes another equally gifted philosopher to uncover that such and such arguments were based on an (unconscious) equivocation or parity of reasoning. We need not necessarily suspect that the philosopber in question was deliberately trying to trick us.

The third type of debate, *vitaṇḍā*, has evoked much criticism. If the goal here is also victory, as in the second type, then it is felt that this victory is earned not only through trick but also by motiveless malignity. Vātsyāyana argues that a debater in this case cannot be entirely without a motive. One may point out that since the debater (*vaitaṇḍika*) does not establish a position here, it is possible that he does not have a position to defend. But can there be any debater without a position ? Can there be any person who does not believe in anything ? In fact, according to Vātsyāyana, the third type of debate can easily be put to an end by asking the debater what his position is or what he proposes for debating. If he says something, then he has a position to defend and should be asked to do so. If he declines, he should forfeit his right to debate. If he says simply that he proposes (motive) to refute the opponent then also he concedes a position, viz., refutation of the opponent. In any case, he can be shown in this way that he cannot conceivably participate in the third type of debate when he concedes a position of his own. However, it is by no means absolutely clear why a debater in the third case cannot consistently maintain that he only wants to refute the opponent and that the onus of proving anything lies with the opponent, not with him. In fact, many respectable philosophers would opt out for refutation only of rival views and avoid proving anything, since either a) they are truly sceptics and would like to suspend judgement, or b) their truths are self-evident and hence require no proof.

In fact, it is not necessary that a debater in the third type of debate is always looking for victory as the goal and using tricky devices. It is conceivable that his business is also to find out or seek after truth. In other words, we may not be dealing here with a charlatan in each case, but a genuine seeker after truth. Noticing this possibility, some Gauḍa Naiyāyikas, such as Sānātanī, talk about a four-fold classification of debate, a) *vāda*, b) *vāda-vitaṇḍā*, c) *jalpa* and d) *jalpa-vitaṇḍā*, the first two being for the honest seekers after truth, and the last two

for the proud people who intend to defeat others.[1] Tricky devices are allowable, therefore, only in the last two and not in the first two.

In fact, *vāda-vitaṇḍā*, an honest and fair debate aimed at the refutation only of the opponent's thesis, is philosophically a more fruitful and powerful concept and certainly it has its adherents. Specially, in case of the sceptics or the sceptic-mystics, a debate of this nature is positively helpful. For, if scepticism has to be feasibly maintained at all, the debater must only refute the position that is positively offered and cannot defend any position. We may add that scepticism itself can neither be formulated, nor can it be defended, as a position in this sense. The debater has to allow his opponent to formulate his position before he can proceed to refute it.

Is not the negation of a position another position? If the proposition p is refuted, does it not amount to the defence of not-p? This was actually the import of the criticisms made of *vitaṇḍā* by Vātsyāyana and Uddyotakara. But the sceptic-debater after refuting p will only proceed, under the circumstances (i.e., being faced with such a question), to refute not-p. This will probably imply that p and not-p do not exhaust the possibilities, and that might mean in turn that the law of excluded middle does not apply here. But notice that the law of contradiction as it was understood in the Indian context is not violated here. For it is possible for p and not-p to be both false. It is only when both are held to be true that the law of contradiction is violated. Or we can say, if one position is proven to be true, the other is, thereby rendered false, but not if one is proven to be false, the other would be true.

Alternatively, we may hold that the refutation of a position need not amount to commitment to the 'negation' of the proposition involved. Refutation of this debater may be taken as an 'illocutionary' negation as distinct from a 'propositional' negation.[2] For example, Sañjaya, being asked about after-life, said: "I do not say there is an after-life". This can be represented in the manner of Searle:

$$\sim F\ (p)$$

[1]Udayana, *op. cit.*, p. 620.

[2]Searle, J.R., *Speech Acts*, p. 32-33.

This is an illocutionary negation and should be distinguished from the propositional denials:

"There is no after-life".

$F(\sim p)$

It would be clearly a mistake, as Searle has argued, to blur the distinction between the two. In the same vein, Sañjaya may be allowed to say:

"I do not say that there is an after-life,"

$\sim \vdash (\exists x)\ (x \text{ is } F)$, and

"I do not say there is no after-life".

$\sim \vdash \sim (\exists x)\ (x \text{ is } F)$

Here the second would not be contradictory to the first. Notice that the first is of the form $\sim \vdash (q)$, while the second, $\sim \vdash (\sim q)$.

Consider the following hypothetical debate modelled after the first verse of Nāgārjuna.[1]

1. Is a thing (*bhāva*) produced from itself ?
1a. No.
2. Is it produced from something other than itself ?
2a. No.
3. Is it produced from both itself and the other ?
3a. No.
4. Is it produced from neither or nothing ?
(this is equivalent to: Is it not produced at all?)
4a. No.

It is clear that in this formulation, at least, 1 and 2 are not contradictories, for, it is possible for a thing to be produced partly from itself and partly from others. Hence 3 is a possible formulation, which is not exhausted by the rejection of 1 and 2. Now, the question arises: have we exhausted all the possibilities of, say, production from something or other, by the three rejections 1a, 2a, and 3a? If we have, then the fourth position will have to be a rejection of the production itself. Nāgārjuna, however, asks us, by 4a, to reject this position too. This raises the problem about the subject that we are talking about here. If refutation of the refutation of production amounts to production, then we are back in the game, i.e., with one of the three

[1] *Madhyamakaśāstra*, verse 1 (verse 3 in P.L. Vaidya's edn.)

alternatives, 1, 2 or 3. But they have already been rejected. Therefore, it would be argued that the rejection in 4a, the rejection of the rejection of production, should not be construed, at least in Nāgārjunian sense of rejection, as a position affirming production. This can be taken to be a special case of the general point we are discussing here. The rejection of a position need not always amount to a counter-position. If this is agreed, then it is quite feasible for a debater to conduct an honest (non-tricky) form of debate consisting of refutation or rejection only. Such a debate can be called a *vāda-vitaṇḍā*.

In fact, the aim of the debater in this case is to reduce the opponent's position to absurdities. In spite of what I have argued here it is clear that not all the Buddhists were happy about *vitaṇḍā*. Dharmakīrti clearly rejects any other form of debate except *vāda*.[1] And we may imagine that in this rejection he probably followed Vasubandhu and Dignāga.

Udayana first refers to the variety called *vāda-vitaṇḍā*, an honest form of debate consisting of refutation only, and then argues that this would be an impossibility. He reasons as follows: A debater who is also a seeker after truth (as he should be if he is participating in a *vāda*) can hardly remain content with refutation only. For, if he simply refutes the opponent's reason, truth is not determined thereby. Because determination of the truth depends upon some means (*sādhana*). If, however, he does not refute the opponent's reason, truth remains equally undetermined, since doubt regarding its falsification has not so far been removed. If he does not even care for the opponent's reason, he cannot be said to be determining truth at all. At all events, determination of truth cannot be done simply by refutation.[2]

In any case, Udayana's criticism missed the point that I have already made. Truth may be either self-evident or indeterminable, according to a debater, in which case he does not need a reason to prove it, or determine it. Śriharṣa has elaborately criticized this argument of Udayana in his ***Khaṇḍanakhaṇḍakhādya***.[3]

[1]Dharmakīrti, *Vādanyāya*, p. 69-71.
[2]Udayana, *op. cit.*, p. 620.
[3]See the introductory section of *Khaṇḍanakhaṇḍakhādya*. See also

This classification of debate into the one for seeking after truth and the other for victory is reminiscent of Plato's way of contrasting what he called 'dialectic' with 'eristic' or the art of quarrelling. It is clearly indicated in Plato that the aim of the procedure he sometimes calls 'eristic' is to win the argument, whereas the aim of 'dialectic' is to discover truth (Robinson).[1] The dialogue that is illustrated in *Euthydemus* may remind one of the *jalpa* or *vigṛhya kathā* in the Indian tradition. The debater cares nothing for truth, but uses any and every device that provides the appearance of winning an argument. The word *vigraha* in Sanskrit means 'a fight' and the description of *jalpa* indicates that it was a sort of verbal fight. The appropriate picture for 'eristic' in Plato was a verbal fight.

The art of dialectic became a technique in the hand of Aristotle who undertook to write a handbook of dialectic, *Topics*. The character of dialectic was turned into a dubious game of debate, an exercise for the muscles of intellect. The *Topics* of Aristotle, therefore, resembles, at least in the above sense, the *vivāda-śāstras* of ancient India. But, perhaps, this is too broad a generalization. Let me qualify it. Aristotle deals with dialectic in the *Topics* and what he calls 'syllogism' in the *Analytics*. One of the distinctions is underlined by him as follows: a question is treated 'in accordance with opinion' in the work on dialectic, and 'in accordance with truth' in the work on syllogism. Under syllogism, Aristotle studies mainly inferences based upon class-inclusion. But in a broader sense, syllogism, for Aristotle, stands for any argument in which, after certain propositions have been assumed, there necessarily results a proposition other than the assumptions but because of the assumptions. Using this notion of syllogism, Aristotle says that every dialectical argument is either a syllogism or an epagoge (*Topics* I, 12). The general characterization of epagoge is that it approaches the universal from the particular (although other varieties are also recognized), and this is reminiscent of induction of later times. Aristotle says that the debater must admit an epagoge supported by instances unless he can produce a negative instance.[2]

P. Granoff's *Philosophy and Argument in Late Vedānta*, B.K. Matilal's *The Logical Illumination of Indian Mysticism* (Oxford, 1977).

[1]Robinson, R. *Plato's Earlier Dialectic*, p. 85.

[2]Aristotle, *De Sophisticis Elenchis*, 165 b.

The most pervasive form of refutation practised by Socrates is called elenchus. An elenchus, according to R. Robinson[1], is, in the narrower sense, a form of cross-examination or refutation. In the wider sense it means examining a person's statement by asking him questions and then further questions in the hope that the person giving answer will finally feel that he must agree to a position that entails the falsehood of his original assertion. The Platonic idea of an elenchus, the one that he approved, was a contest in which both sides openly recognize that the questioner was trying to refute and the answerer was trying not to be refuted.[2]

If the Socratic elenchus was a purely destructive instrument, as it seems to be the case, then it was almost the mirror-image of the *vitaṇḍā* type of debate. In the *jalpa* type, the questioner is trying not only to refute but, as we have seen, also to establish the contrary position, and the answerer is also trying to defend his position as well as refute the counter-position. Plato, however, in his middle and later dialogues, transforms, perhaps unconsciously, as Robinson has argued[3], the destructive tool of Socrates, the elenchus, into his own new constructive instrument of dialectic. In other words, he harnesses the tool of his teacher to constructive purposes, thereby incorporating it into the larger whole which he calls dialectic. M. Kneale has remarked that perhaps Plato himself was confused in this matter.[4] But even this modified form of elenchus would hardly resemble *jalpa*, for *jalpa* can hardly be said to be a road to truth or science. *Jalpa* is explicitly stated to be for victory, and it may be argued that in some cases achievement of victory and establishment of truth may coincide with each other. But still *jalpa* can hardly approximate the dialectic in its Platonic sense, for, Plato emphatically declares dialectic to be the noblest as well as the most useful method.

The specific nature of the Platonic dialectic, however, remains ever elusive to a reader of Plato. He recommends the dialectical method with great enthusiasm. In the *Republic* (533 B), it is said that dialectic seeks 'what each thing is', the abiding element

[1]Robinson, *op. cit.*, p. 7.
[2]*Ibid.*, p. 19.
[3]*Ibid.*, p. 83.
[4]Kneale, W. and Kneale, M. *The Development of Logic*, p. 9.

in the thing. It is a search for definitions. In fact, dialectic is hardly distinguishable in Plato from the very intellectual type of philosophic activity that rejects the manifold changing appearances, the mundane things of this world, and searches for the changeless essences or forms. He did not, however, distinguish, as we do now, between methodology and metaphysics. A perfect dialectician was, for Plato, an inspired philosopher. Platonic dialectic seems to be vaguely reminiscent of Vātsyāyana's comment about the methodolcgy of a *śāstra*, which says that it progresses through naming, defining or characterizing and examining.

Aristotle, however, cleared some mist that surrounded the notion of Platonic dialectic, by transforming it into a technique that could be learnt by itself. Dialectic is such a technique. It is, according to both Aristotle and Plato, unrestricted in its application. But, while for Plato it is essentially a scientific activity, for Aristotle its lack of restriction is an indication of its unscientific character.[1] Aristotle rejects the Platonic contention that dialectic involves search for definitions. For him, it is the study of technique of argument from non-evident premises. Thus Aristotle believed to be covering also dialectical arguments when he was giving an account of syllogistic. In the *Topics*, he gave rules for conducting debate (i.e., the disputatious debate by means of valid arguments). But in *De Sophisticus Elenchus* which is considered to be an appendix to the *Topics*, he gives rules for detecting (as well as inventing) invalid arguments and in this respect it resembles the *Vāda* manuals of the ancient Indians where the method of invention and detection of invalid arguments are talked about.

It has, however, been argued by J.D.G Evans, against the prevailing opinion of modern commentators on Aristotle, that it is a mistake to represent the *Topics* as a manual of instruction on how to win a debate at all costs, or even to regard it as a first draft on the *Analytics*.[2] The *Topics*, according to Evans, is *sui generis*, and here Aristotle elects to treat such concepts as intelligibility in their full complexity.

[1]Evans, J.D.G. *Aristotle's Concept of Dialectic*, p. 50.
[2]*Ibid.*, p. 94.

§1.3 : Argument and Pseudo-Argument (Nyāya and Nyāyābhāsa)

It is, perhaps, Vātsyāyana who first uses the expression *nyāyābhāsa,* as an opposite term to *nyāya.* The word **'nyāya'** carries a specialized sense in philosophical treatises. It is difficult to find in the English Language a synonym which will fully convey the meaning expressed by the term nyāya in Indian Philosophy. Vātsyāyana brings out the sense in the following way. 'Nyāya', in his opinion, is the examination (i.e., apprehension of an object) with the help of all pramāṇas.[1] The etymological meaning (*ni+in nīyate prāpyate vivakṣitārthasiddhir anena*—by which the desired end or object is attained, i.e., to say, is understood) also contributes to such an explanation. The real sense of the word is *anumāna* or inference expressed fully in a verbal form, i.e., what goes by the name *parārthānumāna.* In case of *parārthānumāna* which is constituted by the five-membered inference-schema (which we have already discussed in the first two sections), one must take recourse to all the four pramāṇas in some form or other. In the first member, *pratijñā* or assertion, we are helped in some way by *śabda pramāṇa* or verbal testimony. The second member, *hetu* or reason, presents a skeleton form of *anumāna* or inference. Perception performs the main function so far as the third member, *udāharaṇa* or example, is concerned. The fourth member, *upanaya* or application bears some sort of distant similarity with the implication of *upamāna* or comparison. Thus, all the *pramāṇas* become helpful in an inference meant for the other, i.e., *parārthānumāna,* which is better known as *nyāya.* Uddyotakara explains the word evidently in this sense. Vācaspati, however, indulges in a bit of twisted explanation of the lines of Vātsyāyana. According to him, *nyāya* is examining or testing the object adduced as the *hetu* or reason of the inference. It is inference itself which puts the *hetu* to test. Thus, *nyāya* is *parārthānumāna.* But we may humbly submit that this explanation of Vācaspati does not appear to be quite satisfactory, in view of the fact that it takes a roundabout way of unfolding the meaning.

[1] *Pramāṇair arthaparīkṣaṇaṃ nyāyaḥ—Nyāya-Bhāṣya* under *Nyāya-Sūtra* 1.1.1.

One of the best ways to explain definitely what is denoted by the term *nyāya* is to distinguish it from what is known as *nyāyābhāsa*, or pseudo-inference. In ultimate scrutiny *nyāya* stands for those inferences as rest upon, i.e., are not at variance with, perception and verbal or scriptural testimony.[1] In this manner Vātsyāyana tries to introduce a distinction between *nyāya* and *nyāyābhāsa*. Thus, inferences, the results of which do not agree with what is obtained from perception, or verbal (scriptural) **testimony** are treated as *nyāyābhāsas* (or pseudo-inference.[2] From this it is clear that *nyāyābhāsa* or pseudo-inference is of two types : one that is liable to be frustrated by perception and the other by verbal testimony (*āgama*).

The example of the first type is to be sought in the following : fire is not-hot, as it is created, such as a pot. This argument resembles an inference in all its external features. Hence, one may take it as a *nyāya*, but on scrutiny it is found to possess simply outward and superficial resemblances. So the inferential knowledge thus derived is rejected in no time by just the opposite judgment derived from the perception of fire that it is hot. Thus, it is not *nyāya* in the strict sense of the term but *nyāyābhāsa*. In other words, here perception opposes inference.

How is the inference opposed here ? Let us understand the position more clearly. Uddyotakara answers that this is a wrong application of inference to an improper case. The case under enquiry (i.e., not-hot-ness of fire) is not at all a case for inference. It disqualifies itself as the stronger proof (perception) carries just the opposite conviction, e.g., fire is hot. Uddyotakara says, perception here baffles inference.[3] Here another point may also arise. The *hetu*, viz., createdness (*kṛtakatva*) suffers here from another serious defect. It is non-concomitant with the *sādhya*. But this defect, e.g., non-concomitance cannot be proved until and unless we first take recourse to perception of particular instances. And when perception proves just the opposite, e.g., the absence of the *sādhya* in the locus, it is useless to look for other defects, if any.

[1] *Pratyakṣāgamāśritamanumānam, sānvīkṣā—Ibid.*

[2] *Yat punaranumānaṃ pratyakṣāgamaviruddhaṃ nyāyābhāsaḥ saḥ—Ibid.*

[3] *Yasmin viṣaye etat prayujyate sa pratyakṣeṇāpahṛtaḥ—Nyāya-Vārttika,* on above.

The Buddhist logician, in *Nyāyapraveśa*, gives a different example in a context almost similar to this. According to him, 'sound is inaudible, since it is created, such as a pot' may be taken to be an inference which perception opposes. He really contends that here the thesis 'sound is inaudible' is inconsistent with perception. But Uddyotakara retorts that audibility is not an object of perception. Audibility is but a relation existing between the ear-organ and sound. But the ear-organ itself being etherial (cf. *gagana*) by nature, is beyond the reach of perception. Now, a relation (*sambandha*) becomes perceptible, if both the relata (*sambandhin*) are perceptible. Here neither the ear-organ nor sound are perceptible. Hence, the said relation is imperceptible. Kumārila says, 'knowability-by-the ear' is not perceptible.[1] Thus, the absence of *sādhya*, e.g., audibility (*śrāvaṇatā*) not being an object of perception, it is improper to say here that perception opposes inference.

The example of the second type is supplied by the following :

The skull of the corpse is pure, as it is a limb (of a corpse), such as the conch-shell.

Such an inference is invalidated by the scriptural testimony. *Manusmṛti* and such sacred texts speak of the human skull as impure. Thus, it is an example of *nyāyābhāsa*. Let us make it more clear. What is the exact sense of the word purity in this inference? Evidently, it implies the absence of demerit on the part of those who touch the object under question. Now, what is the authority to decide whether the person who touches it, incurs demerit or not? If the authority of the *Vedas* or Revealed Texts is accepted, then such an inference cannot stand scrutiny. Because *Manusmṛti*, which owes its authority ultimately to the *Vedas*, gives the opposite verdict. Here, the conch-shell is treated as pure on the authority of the *Vedas*. When its authority is accepted in one case, it cannot be rejected in another case on the same issue. Thus, with due reverence to the Vedic authority, we are to accept the conch-shell as pure and the skull of the corpse as impure. Hence, the said inference is rendered invalid.

When all these are stated, a question naturally arises. What should be the position when an inference is opposed by (1)

[1] *na hi śrāvaṇatā nāma pratyakṣenāvagamyate—Śloka-Vārttika* of Kumārila, *Anumāna*, verse 60.

another inference or by (2) comparison (*upamāna*) ? Will these be the cases of *nyāyābhāsa* ? If so, why does not Vātsyāyana refer to them ? The second problem can be easily resolved.

When comparison opposes an inference, it becomes a *nyāyābhāsa* of the second type, inasmuch as that inference is in reality opposed by *śabda pramāṇa* or verbal testimony which lies at the bottom of all cases of *upamāna* (comparison).

So far as the first case is concerned, Uddyotakara says that two opposing inferences of an independent nature are practically impossible to be drawn about the same subject. In such a case, both the rival reasons (*hetus*) are of equal strength, and hence suffer from the serious defect known as *satpratipakṣatva* (i.e., having rival a reason). So, none of them produces any inference They cancel each other. The question of *nyāyābhāsa* (pseudo-inference), therefore, does not arise at all.

Vācaspati, however, is inclined to admit another type of *nyāyābhāsa*, where inference opposes another inference. According to him, where there are two inferences, one of them depending upon the other, in that case if the dependent inference is opposed by the other upon which it depends, the dependent inference becomes a *nyāyabhāsa*. This may be adduced as the third type of *nyāyābhāsa*. For example, an inference like 'God is not the creator' would depend upon a prior inference by which the existence of God is proved. Now, by that very prior inference, just the opposite of the second inference, i.e., 'God is the creator' is also proved. Hence, the second inference loses its force and becomes a *nyāyābhāsa*.

Lastly, the relation between *nyāyābhāsa* and *hetvābhāsa*[1] (bad or defective reason or defects of the reason) is an interesting point to be noted in this connection. In all cases of *nyāyābhāsa*, the *hetu* or reason suffers from a serious defect, e.g., *bādha* or *kālātyayāpadeśa*, so as to mar the essence of the inference. *Abādhitatva* or non-opposition is one of the five essential marks of a real *hetu*. The five essential marks of a (sound) *hetu* are : *pakṣa-sattva*, *sapakṣa-sattva*, *vipakṣāsattva*, *asat-pratiapakṣatva* and *ābādhitatva*. If a *hetu* lacks any one of them, then, according to the Naiyāyikas, it becomes a *hetvābhāsa*. In this case, therefore, the *hetu* itself becomes a *hetvābhāsa* or defective reason. This

[1]See section § 1.5 below.

defect is contained in the foregone determination of the absence of *sādhya* in the locus or subject (*pakṣa*). This disqualifies the *pakṣa* to be a real *pakṣa* of an inference. The Vaiśeṣikas, however, regard this as a defect of the *pakṣa* itself. In their opinion, a *hetu* possesses three essential marks, e.g., *pakṣasattva*, *svapakṣasattva*, and *vipakṣāsattva,* and not five, as stated by the leading Naiyāyikas. The Vaiśeṣikas, in this case, would agree with the Buddhists.

The Navya Naiyāyikas make no special mention of the term *nyāyābhāsa*, most probably because they regard it as redundant to coin a new technical term in addition to the five *hetvābhāsas* which are enough to cover all the cases of false inferences. Thus, we see that the term *nyāyābhāsa* though mentioned by Vātsyāyana (perhaps, not with such seriousness as his commentators intended) by way of giving a popular definition of what is known as *nyāya*, illustrated, elaborately dealt with and commented upon by his followers, viz., Uddyotakara, Vācaspati and Udayana, has been completely ignored by other systems as well as by the new School of Nyāya.

One of the important characteristics of Indian Logic is that it seldom develops the sort of doctrines which we class as 'Formal'. Formal validity in argument was perhaps looked upon by the Indian logicians as not of much importance. So, formalism in logic does not find here much scope for development. This can be illustrated in many ways taking examples from the books of Indian logic. The doctrine of *nyāyābhāsa* as an opposite term of *nyāya* is also a case in point where we may have the advantage to look to the Indian attitude towards formal validity. The examples like 'fire is not-hot, as it is created, such as a pot', may be formally valid, so far as the Indian form of argument is concerned. It may be submitted that the relation of universal concomitance between *sādhya* and *hetu,* an essential requisite for valid inference, is not established here, since all created things are *not* not-hot. But Naiyāyikas will say that an awareness of such a relation (be it valid or invalid) is not impossible here, since the persons inferring may experience their co-existence in some instance or instances (as illustrated by the case of a pot in the said example). In the absence of any contradictory experience, this awareness, for all practical purposes, is sufficient for

the desired inference to follow. So, enquiry into this line to prove invalidity of the argument will not be much helpful. The Naiyāyika maintains that the conclusion, which such argument leads to, is contradicted directly by the experience of fire which gives the contradictory judgment, fire is hot. From the formal point of view, the two propositions 'fire is hot' and 'fire is not-hot' are contradictory propositions, and hence, both of them cannot be true at the same time. Thus, the truth of the one entails the falsity of the other. Hence, truth of the first being well established by the direct experience of fire, the purpose of the said inference (which is nothing but to prove the truth of the contradictory proposition) is vitiated. So, if we infer at all that the opposite is the case, it will not be a real inference but a pseudo-inference, to all intents and purposes. A pseudo-argument, therefore, is one that is based upon a pseudo-inference which goes against the fundamental requirement of rationality, consistency or coherence. Our conscious beliefs must cohere or be consistent with one another. We may construct an argument, a sound one or an unsound one, in support of a proposition or belief. But if that belief or proposition does not cohere with other accepted beliefs, if it militates against some well-established and sound belief, then, without further investigation into the soundness or unsoundness of that argument, Nyāya would declare it as a pseudo-argument. There may be an implicit logical fault in the argument itself, but that fault need not be brought out to the surface in order to discard the argument as a pseudo-argument.

We may note that we are concerned here with the constructed argument in favour of some thesis or belief which runs counter to some of the well-established, and least contested beliefs. This is different from the case where two arguments (inferences) are constructed (adduced) in support of two theses which are contradictory to each other. In the second case, both arguments (inferences) are to be considered as inconclusive. But, they would not be the instances of pseudo-argument in the above sense. The latter case is technically called the case of *sat-pratipakṣa*—'a thesis with a counter thesis'. There may be cases when both the thesis and the counter thesis are supported by SOUND arguments (though not necessarily by formally valid, deductive arguments), and in such cases, it would be impossible to reach a decision one way or the other. Hence, 'having such a counter

thesis' is regarded as a logical defect of an argument, because the case would be inconclusive.

§ 1.4 : THE EARLY NYĀYA THEORY OF INFERENCE (*Nyāyasūtra* 1.1.5)

Nyāyasūtra 1.1.5 is very difficult to explain. We find here a threefold classification of inference. The problem arises, because the terms used to name the three types of inference are ambiguous and the *sūtra* does not mention any examples to clarify the principle of this threefold division. Many other logicians of that period mentioned and exemplified this threefold classification. A careful study reveals that they were all related in some way or other.

The examples found in the *Carakasaṃhitā* seem to be illustrating the Nyāya theory of inference. *Nyāyasūtras* 2.1.37-38 also discuss the points mentioned in *Nyāyasūtra* 1.1.5. A satisfactory explanation of these two *sūtras* (2.1.37-38)[1] is needed for having a correct interpretation of *Nyāyasūtra* 1.1.5. Vātsyāyana's commentary here seems to be confusing. The threefold classification (in *Nyāyasūtra* 1.1.5) was probably based upon the principle of threefold division of time—past, present and future. The structural arrangement of the *Nyāyasūtras* also justifies this point. Another possibility is that *pūrvavat* refers to inference based on causal relation, *śeṣavat* to the method of exhaustion (*pariśeṣa*), and *sāmānyatodṛṣṭa* to inference based on non-causal relations.

When the theory of inference (*anumāna*) was first systematized in India, two slightly different accounts of inference were found in the tradition. The first account suggested a twofold classification of inference, and was upheld by the Vaiśeṣika and the Mīmāṃsā schools. The second account spoke of a threefold classification of inference, and was recorded in the Nyāya, in some Buddhist texts, and in Caraka. *Nyāyasūtra* 1.1.5 mentions the three types of inference as *pūrvavat*, *śeṣavat* and *sāmānyatodṛṣṭa*. These terms themselves are ambiguous, and as far back as

[1]This numbering has been accepted in the reading of MM. Phanibhusana Tarkavagis. See his *Nyāya-darśana*, Bangiya Sahitya Parishat Series 63, Calcutta : 1939. In Ganganatha Jha's reading, the last two sūtras are numbered 2.1.38 and 2.1.39. Poona Oriental Series No. 59, Poona : 1939.

Vātsyāyana, alternative explanations about them were offered. Moreover, *Nyāyasūtra* 1.1.5 gave only the names, and no examples, of these three types. It is unfortunate that no single series of interpretations offered by the earlier commentators, such as Vātsyāyana, is consistent and that those offered by the later commentators, such as Uddyotakara and Jayanta, while sometimes consistent, also give the impression of being twisted, far-fetched, and anachronistic.

I shall attempt to show what might have been the Sūtrakāra's understanding of this threefold division and to furnish reasonable and satisfactory examples of the three types without stretching our imagination too far.

We may begin by giving a synopsis of the different interpretations already suggested by the ancients. I avoid the question of the exact dates of these authors. Their chronology is approximately as follows: Upāyahṛdaya (UH) or *Prayoga-sāra*[1], Vātsyāyana (Vāt), Ts'ing-mu (a comm. on the *Mūlamādhyamikakārikā*)[2], Gauḍapāda, the Pāśupata School[3], Uddyotakara (Udd)[4], Jayanta, and Bhāsarvajña.[5]

UH. (a) *pūrvavat* = 'as before' : From previous knowledge of some special mark (like six fingers, etc.,) of a particular child, to infer later that this is the same man (grown-up child) from that mark.

(b) *śeṣavat* = 'the rest will be alike' : From the salty taste of one drop of sea-water to infer that all other drops will be salty too. (Inference through sampling?)

(c) *sāmānyatodṛṣṭa* : Displacement of ordinary bodies is seen to be due to their movements. Therefore, the celestial bodies, such as the planets and the moon, move, because they are seen to be displaced.

[1]See G. Tucci, *Pre-Dignāga Buddhist Texts on Logic from Chinese Sources*, Gaekwad's Oriental Series Vol. XLIX, Baroda, 1929. My friend Prof. Hattori informs me that a better translation of the Chinese title would be *Prayoga-sāra* (as suggested by Frauwallner).

[2]*Ibid.*

[3]*Pāśupata Sūtras* with the *Pañcārthabhāṣya* of Kauṇḍinya, ed. by R. Ananta Krishna Sastri, Trivandrum Sanskrit Series No. CXLIII, Trivandrum : 1940, p. 7.

[4]Uddyotakara, *Nyāyavārttikam*, Benares, 1915.

[5]Jayanta, *Nyāyamañjarī*, Vizianagram Sanskrit Series, Benares, 1895. And Bhāsarvajñā, *Nyāyabhūsaṇa*, Svami Yogindrananda, Varanasi, 1968.

UH A. General example of inference given before the threefold classification. Seeing fire with smoke before, one infers fire from smoke later. (*pūrvavat*? See below.)

Vāt I (a) *Pūrvavat*: From cause to effect: It will rain, because there is a cloud.

(b) *Śeṣavat* : From effect to cause: It has rained, because the river is full and flowing swiftly.

(c) *sāmānyatodarṣṭa* : Same as UH (c). This unfortunate example was criticized and even ridiculed by Uddyotakara and Vācaspati. It was declared by them to be a variety of *śeṣavat*. This is also identical with Śabara's example of *sāmānyatodṛṣṭasambandha*.

Vat II (a) Same as UH A. *pūrvavat* = 'as before': To infer fire from smoke.

(b) '*seṣa* = the remainder': Inference by elimination of alternatives :

Premise: Sound is either *D* or *G* or *K*
But Sound is not *D* because of *X*, and not *K* because of *Y*. *Conclusion*: Therefore, Sound is *G*.

This inference is based upon a more developed logical principle.

But, perhaps, the *Sūtrakāra* did not have this in mind.

(c) Another interpretation of the term *sāmānyatodṛṣṭa*. Example : Desire, etc., are qualities (*guṇa*) and a quality inheres in a substance as its locus. Therefore, the substance where desire, etc., inhere is the self. This was also criticized by Uddyotakara who pointed out that in this type too, an implicit use of the principle of elimination is made to prove the substance in question to be the self.

Ts'ing-mu (a) Same as UH A./Vāt II (a).

(b) Similar to UH (b) : One grain of rice is cooked. Therefore, all other grains of rice (in the same pot) are cooked.

(c) Same as UH (c). Alt. example: Same as Vāt II (c).

Gauḍapāda: (a) Same as Vāt I (a).

(b) Same as UH (b).
(c) Same as Vāt II (c).

The Pāśupata school: (a) & (c) Same as UH (a) and (c)
(b) To infer the whole cow from seeing only the horns, etc. (essential parts). An interesting form of knowledge (whole from part ?). Kaṇāda used this example in three places of the *Vaiśeṣika Sūtra.*

Udd I Threefold division: *anvayin, vyatirekin* and *anvaya-vyatirekin.* The terms *pūrvavat*, etc., are not used. *pakṣa* = subject = the place or the property-locus where the *sādhya* is intended to be inferred. *Sapakṣa* = homologue = entities, apart from the subject, where the *sādhya* is known to occur. *vipakṣa* = heterologue = entities where the *sādhya* is known to be absent.
(a) No heterologue: Sound is impermanent, because it is produced: (when it is an inference of those who believe everything to be impermanent).
(b) No homologue : The living body is *not* soulless, for, otherwise it would be lifeless. (Comparable with a negative conclusion from at least one universal negative premise—Celarent or EAE in Aristotelian system. Also, *avīta* inference in the Sāṁkhya system) The example is slightly defective. The later school (*Navya-Nyāya*) gives a better example.
(c) Having both homologue and heterologue: Usual form of inference: Sound is impermanent, etc.

This certainly indicates logical advances of a later period. Gaṅgeśa accepted this threefold classification. (For this as well as for a brief exposition of Dignāga's "wheel of reasons", see below § 2.4.)

Udd II (a), (b), and (c) : Same as Udd I (a), (b) & (c). But some very far-fetched explanations of the terms *pūrvavat*, etc., are suggested so as to cover the above cases. *Sāmānyatodṛṣṭa* is analysed in two ways: *sāmānyataḥ* + *dṛṣṭa* and *sāmānyataḥ*+ *adṛṣṭa.*

Udd III. (a) & (b): Same as Vāt I (a) & (b). A difficulty in

inferring the effect from the cause is pointed out, but is also explained away in order to defend Vātsyāyana.

(c) To infer *a* from *b* where *a* and *b* are *not causally* related: There is water nearby, because wild geese are present. This is a new example.

Udd IV. 'Threefold' means that the hetu must have the three characteristics mentioned in *Vaiśeṣika sūtra* 3.1.10-11 (GOS-136).

(a) *prasiddha* = The hetu occurs in the subject.

(b) *sat* = The hetu occurs in the homologue.

(c) *asandigdha* = The hetu does not occur in the heterologue.

Jayanta I (a) & (b) : Same as Vāt I (a) & (b).

(c) Similar, in principle, to Udd III (c). The actual example is perhaps, better : To infer the nature of the taste of a *kapittha* fruit, from seeing its colour.

Jayanta II (a) & (b): Same as Vāt II (a) & (b). The suffix '*Vati*' in *pūrvavat*, etc., means 'like'.

(c) *Sāmānyatodṛṣṭa* refers to the case where there is *sāmānyato vyāpti*, and the *sādhya* is not perceivable. Example: We have sense-organs, because we have sense-perceptions which are acts, and all acts must have instruments.

(Jayanta admits that *śeṣavat* and *sāmānyato-dṛṣṭa* are closely related, but he also contends that the principle involved in each case is different, while the examples might be similar.)

Bhāsarvajña I (a) *Pūrva* = cause. Hence, infer cause from effect.

(b) *śeṣa* = 'remainder' = effect. Hence, infer effect from cause.

(c) Non-causal connection. Infer a specific taste (of a fruit) from a specific smell.

II, (a), (b), (c) same as Udd I.

It seems to me that none of these interpretations fully represents the position of the Sūtrakāra on the threefold classification. Of what the Sūtrakāra had in mind we can only make an intelligent guess. Such a guess should, of course, be based upon

some textual or other evidence. While making such a guess I shall assume that at least some *sūtras* in the beginning of Chapter 1, *Āhnika* 1, and some of those of Chapter 2, *Āhnika* 1 are related to each other, since they seem to develop some coherent theories.[1] In particular, it seems that *sūtras* 2.1.37 and 2.1.38 refer back to the same threefold classification of inference that is mentioned in 1.1.5. Thus, my minimal assumption will be that at least *sūtras* 1.1.5, 2.1.37 and 2.1.38 were intended to present a single theory of inference based on a threefold classification. When these *sūtras* are studied and understood together, the threefold classification, it seems to me, appears neither silly nor unsatisfactory.

The structure of these *sūtras* also indicates that they were developing the same theory of inference. *Sūtra* 1.1.5 states that inference, which is always preceded by perception, can be of three types : *pūrvavat*, *śeṣavat* and *sāmānyatodṛṣṭa*. *Nyāya-Sūtra* 2.1.37 raises an objection that inference is *not* a valid means of knowledge (*pramāṇa*) , and assigns three reasons to the three types, in order to show that individual examples of these three types are wrong or unsound. *Nyāya-Sūtra* 2.1.38 answers this objection by furnishing three correct types, in order to show that the charge of unsoundness in each case can be satisfactorily explained away. Vātsyāyana has explained these *sūtras* in a similar manner, although he has made, it seems to me, some blunders.

Sūtra 2.1.37 mentions the following three reasons related to the supposed three examples:

(1) *rodha* = obstruction (See Vāt I *śeṣavat*). The river may be full because of some *obstruction* in its course, and not because of rain, in which case the inference concerned will be false.

(2) *upaghāta* = demolition or dispersal (See Vāt I *pūrvavat*). It may be that the clouds are dispersed (by the wind),

[1] That the Nyāyasūtras resulted from various *strata* was already stated by Haraprasada Sastri in J. A. S. B., 1905. Tucci has proposed that we distinguish the section dedicated to "the pure *vāda* rules" from the section which is more or less "polemical". See Tucci (note 1 in p. 29 of *Pre Dignāga Texts on Buddhist Logic*), p. xxiv of *Introduction*. Since Chapter 1, Āhnika 1, does not exactly deal with the "pure" *vāda* rules (but only Āhnika 2 does so), I suggest that this need not be taken along with the *vāda*-section.

in which case the said inference will be false. Vātsyāyana, however, mentions a slightly different example here : It will rain, because the ants are carrying their eggs. Thereupon he interprets *upaghāta* as 'destruction': It may be that the nests of the ants have been *destroyed* and they are moving to a safer place in which case the inference of rain will be false.

(3) *sādṛśya* = similarity. Vātsyāyana suggests a completely different example here: There is a peacock, because its voice is heard. He explains 'similarity' as follows: The above inference will be false, if one is duped by the similar voice of a man imitating a peacock.

The respective answers given in *sūtra* 2.1.38 are as follows :

(4) *ekadeśa* = partial case. The fullness and other appearances of the river (viz., swift current, etc.) due to previous rain (in the upper region) agree with the fullness and other appearances of the river due to the blocking of its course (in some lower region) only partially and not wholly.

(5) *trāsa* = fear. When the nests of ants are destroyed, only a few ants are affected by *fear* and the movement of these ants is haphazard. But, when rain is imminent, all ants move carrying their eggs in a systematic and unperturbed fashion.[1]

(6) *sādṛsya* = similarity. Similarity implies difference also.

[1]Was it "*hrāsa*" instead of "*trāsa*"? The script "*tr*" त्र is similar to "*hr*" ह्र. If it were "*hrāsa*" (= "decrease") we need not consider the carrying of eggs by the ants as the reason (*hetu*), but just can take the *accumulation of clouds* as the supposed cause of future rain and its *decrease* to account for the possible failure of rain. Even Vātsyāyana, to whom the ant-example is due, neither mentions the word "*trāsa*" nor does he paraphrase it. He only notes : "*pipīlikāprāyasyāṇḍasañcāre bhaviṣyati vṛṣṭir ity anumīyate, na kāsāñcid iti.*" Ganganatha Jha translates as follows : "when one infers 'coming rain', he does so from the fact that whole hosts of ants are running about (calmly and peacefully) with their eggs,—and not only a few ants..." (See his Translation, note 1 in p. 29 of the book, p.166). Could "*kāsāñcid*" be a paraphrasing of "*hrāsa*" (="decrease, i.e., numerical decrease")? Anyway, there is nothing in Vātsyāyana's expression, which could possibly refer to "*trāsa*" i.e., fear. But in the absence of any textual evidence in favor, this line of conjecture, perhaps, should better be avoided, and the reading should be taken as "*trāsa*". For difficulties connected with the ant-example, see also Ganganatha Jha, p. 164, the second foot-note.

Hence, the mistaking of one entity for another due to similarity can be corrected when their difference is discerned.

In short, *sūtra* 2.1.38 contends that there is a discernible difference between the series of instances mentioned by the objector in *sūtra* 2.1.37 and the series of instances originally adduced as valid types of inference.

The above explanation given by me mainly follows that of Vātsyāyana with some variations already indicated. What is more curious to note here is this. From the explanation that he gives, Vātsyāyana seems to think that the Sūtrakāra has reversed the order of his threefold division given in *sūtra* 1.1.5, so that the first-mentioned cause (either in 2.1.37 or 2.1.38) is to be related to the example of *śeṣavat* and the cause mentioned next (either in 2.1.37 or in 2.1.38) is to be related to the example of *pūrvavat*. Vātsyāyana, however, does not explicitly point out this anomaly. Now, this breaking of the order seems to me to be a false interpretation. Rather, the order here may lead us to a correct formulation of the examples of the three types.

My guess about the principle of the threefold classification of the Sūtrakāra and their examples is a very simple one. The terms '*pūrva*' and '*śeṣa*' can be taken to mean, among other things, temporal stages. Thus, *pūrvavat* might mean 'that which is related to the preceding (*pūrva*) event' (compare Uddyotakara: "*pūrvam asyāsti iti pūrvavat*".[1] The term '*śeṣavat*' being contrasted with '*pūrvavat*' might mean, accordingly, 'that which is related to a later (*śeṣa*) or future event' (cf., *śeṣo 'syāsti iti śeṣavat*). Thus,

Suggestion I (a) *pūrvavat*: To infer the past event from the present: It has rained, because the river is full, etc. Same as Vāt I *śeṣavat*. Compare with (1) & (4) above.

(b) *śeṣavat*: To infer the future event from the present: It will rain, because there is cloud, or because the ants are carrying eggs. Same as Vāt I *pūrvavat*. Compare now with (2) & (5) above.

(c) *sāmānyatodṛṣṭa* : Where both the events are

[1]Uddyotakara, p. 49, line 18.

present events, but one is perceived and the other is inferred. Examples: There is fire, because there is smoke. (Same as UH A. and Vāt II *pūrvavat*). *Or*, There is water, because there are wild geese: Same as Udd III *sāmānyatodṛṣṭa*.
Or, It is raining, because the peacocks are crying.

Is this the actual example which Vātsyāyana had in mind when commenting on *sūtra* 2.1.37, and not the example suggested by Uddyotakara (which I have noted in Udd III a, b) ? Ganganatha Jha's note may be consulted in this connection.[1]

The term *sāmānyatodṛṣṭa* can be explained in the light of these examples in the following manner: The joint presence of the two objects or events has been observed (perceived) before, but in the case under consideration, though both are present, only one event is perceived by the person who thereby infers the other. In such a general sense, this might include other examples of *sāmānyatodṛṣṭa* given above. The expression "similarity" in *sūtra* 2.1.37 can, accordingly, be interpreted as follows: Instead of seeing the smoke one may mistake a *similar* object, viz., water-vapour, dust, etc., for smoke, or instead of hearing the peacock's voice, one may hear a similar voice, and, thus, the inference of fire or the inference of rain will be wrong.

Since the notion of causal connection has been associated with the theory of inference from a very early period (*cf.*, *Vaiśeṣika-sūtra* 9.18; GOS-136,)[2] we might suggest another alternative but not an altogether different interpretation. (This is exactly what Bhāsarvajña I suggests.)

Suggestion II (a) *pūrva* = prior event, i.e., the cause: To infer the cause from the effect. Example: Same as Sug. I (a), Vāt I.

(b) *śeṣa* = posterior event, i.e., the effect: To infer the effect from the cause. Example: Same as Sug. I (b) / Vāt I.

[1]See G. Jha, (note 1 in p. 29 of the book) p. 165, footnote.
[2]I follow here the numbering of Candrānanda. See *Vaiśeṣika-sūtra*, ed. by Muni Śrī Jambuvijayajī, Gaekwad's Oriental Series 136, Baroda, 1961.

(c) Where the two objects are not causally related.
Example : Same as Udd III *sāmānyatodṛṣṭa*.

There is admittedly some strength in this interpretation. Except for their perpetuating Vātsyāyana's confusion of *pūrvavat* and *śeṣavat*, commentators like Uddyotakara and Jayanta indirectly support this line of interpretation. However, I am inclined to believe that in the tradition of the threefold classification, the notion of causal connection was not predominant, although it must be admitted that the evidence of Caraka goes against my inclination (see below). Moreover, considering the fact that inference through sampling was also a primitive form of correct inference, the word "*śeṣa*" in "*śeṣavat*" can be happily explained if we accept the interpretation of *Prayogasāra* and *Ts'ing-mu* (see UH (b) & Ts'ing-mu (b)).

To sum up, the following points might be considered :

First, the examples given in Suggestion I or II seem to suit well the three objections raised in *sūtra* 2.1.37 as well as the three answers mentioned in *sūtra* 2.1.38, and no breaking of the order is necessary. Vātsyāyana's explanation implies the breaking of the order which seems to be highly improbable. For similar reasons, the *Prayogasāra* example of *śeṣavat* cannot, be accepted as that of the Sūtrakāra, because *sūtra* 2.1.37 or 2.1.38 cannot, in that case, be explained.

Second, immediately after examining the definition of inference in *sūtras* 2.1.37-38, the Sūtrakāra proceeds to consider whether it makes sense philosophically to talk of the threefold division of Time, viz., past, present and future, or more particularly, whether the notion of present is distinguishable from the notion of past and future (*cf*., 2. 1. 39-43). This would have been irrelevant unless the threefold classification of inference called, at least implicitly, for such a distinction of three time-stages. In nyāya terminology the discussion of the problem of three time-stages is related to the discussion of the examination of the theory of inference by *upodghāta saṅgati* or *prasaṅga saṅgati*.[1] For similar reasons, I think, the

[1]See Ingalls, *Materials for the Study of Navya-Nyāya Logic*, Harvard University Press, Cambridge, Mass., 1951, p. 80. For a comprehensive discussion on the notion of *saṅgati*, see *Gādādharī*-comm. on *Tattvacintāmaṇidīdhiti*, pp. 4-12.

examination of the doctrine of *avayavin* (whole) follows (in *sūtras* 2.1.33-36) almost as a part of the examination of the theory of perception. Thus, our guess-work will be supported if we credit the compiler of the second chapter, at least, with the understanding of the position of the Sūtrakāra (if he was a different person) regarding this threefold classification of inference.

Third, some of the remarks of Uddyotakara seem to lend support, but only indirectly, to the interpretations suggested above (specially Sug. II) Compare : "...but what is *pūrvavat* here ? Is it the effect or the cause ? If it is analysed as '*pūrvam asyāsti*' then *pūrvavat* means the effect. But, then, it contradicts the interpretation that it refers to the inference of effect from the cause".[1]

Although this is mentioned as the objector's view (*pūrvapakṣa*), a view which Uddyotakara is contending against, the remark at least shows that the interpretation of *pūrvavat* as referring to the inference of the cause from the effect is a plausible one. Regarding the above, I only suggest that this is also a possible and a reasonable interpretation. But since Vātsyāyana has confused *pūrvavat* and *śeṣavat,* a confusion which is attested by his rather odd explanation of *sūtra* 2.1.37, Uddyotakara has tried to defend him by a twisted interpretation.

Fourth, Vātsyāyana's concluding remark under *sūtra* 1.1.5 can be said to lend some indirect support to our suggested interpretations (specially Sug. I). Compare : "*sad-viṣayam pratyakṣaṃ, sad-asad-viṣayaṃ cānumānam,...asac ca khalv atītam anāgataṃ ceti.*"[2] I would interpret this, not entirely in disagreement with the commentators, as follows : Perception grasps objects which are present, and inference grasps objects which are present (*sat*) as well as not present (*a-sat*, i.e., the past and the future objects)....'*A-sat*' is what is past and what has not yet happened (i.e., might happen in the future).

Vātsyāyana is apparently reporting here a view which distinguishes perception and inference according to their objects,

[1] "*pūrvavad ity uktaṃ kiṃ punar atra pūrvavat/kiṃ kāryam uta kāraṇam, yadi pūrvam asyāstīti pūrvavat kāryaṃ pūrvavat prāpnoti/tataś ca kāraṇena kāryānumānam iti vyāghātaḥ.*" —Uddyotakara, p. 49.

[2] Compare with Ganganatha Jha's translation (note 1 in p. 29 of the book) p. 28.

a view which he obviously supports. What he seems to miss here, however, is to connect this view about the objects of inference with the theory of its threefold classification.

Last but not the least, the *Carakasaṃhitā* (which is probably contemporary with the earlier stratum of the *Nyāyasūtras*[1]) records, in fact, three types of inference (*Sūtrasthāna*, Chapter XI, verses 13-14). Caraka's remark, "*pratyakṣa-pūrvakaṃ trividhaṃ trikālaṃ cānumīyate*" sounds as though it were stating almost the same theory as that found in *Nyāyasūtra* 1.1.5, viz., "*tat-pūrvakaṃ trividham anumānam*, etc." Caraka's examples are:

(a) past (cause) from the present (effect) : sexual intercourse from pregnancy.

(b) future (effect) from the present (cause): future fruition from the seed.

(c) present from present: hidden (*nirgūḍha*) fire from smoke.

Some remarks: The term *sāmānyatodṛṣṭa* is rather a confusing one. This term seems to have been already in use much earlier than the Sūtrakāra. Kaṇāda seems to have used this term to denote a particular type of inference.[2] Praśastapāda, following him, used it in his twofold classification. Śabara also used this term with slight variation (cf., *sāmānyatodṛṣṭa-sambandha*) in the Mīmāṁsā tradition. Śabara's example is also identical with Vāt I (c) or UH (c). It is difficult, at the present state of our knowledge, to learn what the term originally stood for. It might just have meant the unsophisticated but often correct inferences based on analogy and previous experience. Or, it might have meant the type of inference Kaṇāda used to show that sound (*śabda*) being a *guṇa* or quality proves the existence of *ākāśa* (the sky or the physical space) as a substance[3] (i.e., inference by elimination of alternatives; compare Vāt II (b) and (c) above). But, anyway, at the time of the Sūtrakāra, its meaning was vague, so that the Sūtrakāra might be said to have redefined the term and used it for the third type of inference as noted above (Sug. I &II). It is an inference through non-causal relation, i.e., mere association.

[1]See on this point A.K. Warder, "The Date of Bhāmaha", *Journal of Oriental Research*, Vol. XXVI, pp. 94-95.

[2]Compare *Vaiśeṣika-sūtras*. 2.1.16, 3.2.6.

[3]Cf. *Vaiśeṣika-sūtra* 2.1.24-25 (Gaekwad's Oriental Series 136).

The term "*śeṣa*" might not have a temporal significance. Thus, the example of UH (b) is, perhaps, more fundamental. But I suggest that the Sūtrakāra might have contrasted the term with "*pūrva*" (which obviously has a temporal significance), and hence, there has been what is called a change of meaning through context (*prakaraṇa*). Vāt (II) (b) has also some claim to be regarded as *śeṣavat*, because this type of inference is also old, since Kaṇāda used it several times in his *sūtras*.

After writing this, I have read an article by G. Oberhammer.[1] It is gratifying to see that in many areas both of us have come to basically the same conclusions. There are two points, however, where we disagree.

Oberhammer, if I understand him correctly, wants to take "*sāmānyatodṛṣṭa*" to be a description of the general nature (definition ?) of inference and not as the name of the third type of inference (p. 70-81). My first objection to this interpretation is that it leaves the word "*trividham*" unexplained, since the third type is neither named nor exemplified. My second objection is that the definition (*laksaṇa*) usually precedes division (*vibhāga*) and does not follow it. Thus, when "*tat-pūrvakam*" gives the definition of inference, it is unlikely that the sūtrakāra will again describe the general nature of inference at the end of the *sūtra* without mentioning the third type of inference.

Secondly, the concluding remarks of Oberhammer seem to suggest that Vṛṣagaṇa's twofold classification of inference into *sāmānyato dṛṣṭa* and *viśeṣato dṛṣṭa* (the first being subdivided into *pūrvavat* and *śeṣavat*) was due to the influence of the *Nyāyasūtra*. But, actually, Vṛṣagaṇa brought the two different traditions (twofold classification and threefold classification) together and had the philosophical insight to see that they were forming only parts of the whole picture. I do not think that the sūtrakāra was aware of the fact that he belonged to the particular

[1]See G. Oberhammer : "Zur Deutung Von *Nyāyasūtram* 1.1.5" in *Wiener Zeitschrift für die Kunde Süd—und Ostasiens*, 10 (1966). Some portion of this section was prepared for presentation at the South Asia Section of XXVII International Congress of Orientalists, at Ann Arbor, Michigan (USA) on August 18, 1967. For a far richer material on the description of the theory of inference in ancient Indian texts see Nancy Schuster's paper "Inference in the Vaiśeṣika-Sūtras," *Journal of Indian Philosophy*, Vol 1, 1972, pp. 34-395. Some portions here pre-date Mrs. Schusters' paper.

tradition where only *sāmānyato dṛṣṭa* inference was recognized. He should rather be regarded as describing the tradition of threefold classification of inference based on the temporal significance as I have already indicated.

As I have already said, my interpretation is a guess-work. It is, at best, an intelligent guess. And, I think, all the later commentators including Vātsyāyana were doing the same thing, i.e., making intelligent guesses, while trying to interpret these three terms. The interpretation suggested above takes into consideration certain historical as well as textual facts which the other interpretations seem to have ignored. This is all that can be said in favour of the above interpretation (viz., Suggestion I and II).

§ 1.5 : Pseudo-Reason (*Hetvābhāsa*)

In Section 1.3, I have already said that while the Buddhist as well as the Vaiśeṣika mentions three essential characteristics or marks of an inferential reason or evidence, i.e., *hetu*, the early Nyāya thinks that the *hetu* should have five, instead of three, essential marks in order to be able to generate infallible inferences. The dispute is usually referred to as one between *trirūpa* and *pañcarūpa* (threefold versus fivefold inference-generating condition). The term '*hetu*' is not easy to translate. I shall use 'reason' or 'evidence' interchangeably to render '*hetu*' into English, although I am aware that 'evidence' may have a much wider application. (Perhaps, any *pramaṇa*, properly understood, would be an evidence.) For '*hetvābhāsa*' I shall use 'pseudo-reason'. Modern writers, being partly misled by their acquaintance with the Western logical terminology, use 'fallacy' to refer to the *defect* that a reason or evidence may have—the *defect* that would incapacitate the reason. In other words, if a reason has one of these defects (cf., *hetu-doṣa*), it is rendered useless, for, it would then not be potent enough to give rise to the desired inference. Since old habit dies hard, I shall use 'fallacy' sometimes in this context, while I would assign to it the sense just described.

The five marks are :

1. The reason (evidence) must be present in the case under consideration (called *pakṣa*, the subject-locus).

2. It must be present in another case similar to the case under consideration (called *sapakṣa*, the homologue, the agreeing case).
3. It must not be present in cases *dissimilar* to the case under consideration, i.e., cases where the inferable property (the predicate-property) is not present.
4. It must be such that the proposition it tries to establish should not be contradicted by another already established truth.
5. It must be such that there should not be another *evidence* or *reason* establishing the opposite thesis, to counter-balance the thesis it tries to establish.

4 and 5 are called in Sanskrit : *abādhitatva* and *asatpratipakṣitva*, 1, 2 and 3 are the same as the 'three marks' of the Buddhist. Some Naiyāyikas even argued that the three terms in *Nyāyasūtra* 1.1.5, *pūrvavat*, *śeṣavat* and *sāmānyato'dṛṣṭa*, actually referred to the first 'three marks' of the *hetu*. [*pūrva* = *pakṣa*, *śeṣa* = *sapakṣa* and *sāmānyato adṛṣṭa* = *vipakṣe sāmānyena adṛṣṭa*]. The same view further maintains that the word "*ca*" in the *sūtra* 1.1.5, indicates the additional two marks, 4 and 5. But, as Bhāsarvajña has said, this is a far-fetched and tortuous interpretation (cf., *kaṣṭa-kalpanā*, pp. 191-92).

Those who regard the five marks as essential face the criticism that 4 and 5 are rather context-dependent and not directly concerned with the soundness of the reason (or *hetu*) itself. Those who regard the 'three marks' as essential face a further criticism. For, it may be argued that under a reasonable interpretation, 2 and 3 would be equivalent and hence, either of them would be redundant. I would discuss this controversy in section 1.7. Let me dwell here on the general idea about what makes a *hetu* a defective *hetu*, a pseudo-reason.

Nyāyasūtra 1.2.4 mentions five types of pseudo-reason. *Sūtras* 1.2.5-1.2.9 try to explain (define) them, but their meanings still remain obscure. I shall try to follow Vātsyāyana here. The first type of pseudo-reason is, perhaps, the least controversial one. It is called *sa-vyabhicāra* 'a deviating reason' or we may call it an inconclusive reason. Vātsyāyana's example is :

Sound is eternal because it is intangible.

It is explained :

> A pot is an entity that is tangible (can be touched) and it is seen to be non-eternal. Sound is not tangible in the same way. Therefore, (one may argue) sound is eternal because it is intangible. (Answer :) In the example, tangibility and eternality are not grasped as being connected by way of being the reason (or evidence) and what is to be proven (*sādhya*). For example, an atom has touch and it is eternal. When the soul, etc., are examples, the (purported) reason bears resemblance with the example and hence purports to prove the *sādhya* (the desired property, eternality). But the reason, intangibility, deviates from the property, eternality. For a cognitive episode is intangible as well as non-eternal. Since the (purported) reason deviates from the (desired) property in both examples (atoms and cognitive events), it is not a (proper) reason, for the definition does not apply. Eternality and temporality are two mutually exclusive opposites. If a reason belongs to one or the other (not both), it is non-deviating. Violation of this rule generates an inconclusive pseudo-reason, for it belongs to both.

This is only a clumsy way of stating the principle that a property in order to be adequate to prove the presence of another property in the same location must belong only to the cases where the second property is *seen* to belong, and should not belong to a case where the second property is *seen* to be absent.

The pseudo-reason *viruddha* is enigmatically defined in *NS* 1.2.6. Most probably, it meant something very different from what the later tradition in *nyāya* understood as *viruddha.* If we keep ourselves within the bounds of *Nyāyasūtra* and *Bhāṣya,* we have to explain it as an 'incoherent' pseudo-reason.

> *NS* 1.2.6 *siddhāntam abhyupetya tad-virodhī viruddhaḥ*
> "An incoherent reason is one which contradicts what has already been conceded as a tenet."

Vātsyāyana gives an example which tries to show that the *Sāṃkhya* doctrine of change in the midst of permanence (cf., the *sat-kāryavāda*) is incoherent, for the reason adduced therein contradicts what has already been accepted in the system.

The so-called 'mistimed' pseudo-reason (*kālātīta*), the fifth in

the list, remains as another enigma of the old school. The basic idea was probably that the proper formulation of what we are going to prove (i.e., the proposition to be proved) would be enough to show that it cannot be proved. Hence, the adducing of the reason would not even be necessary. It would be *mistimed.*

I shall now give a detailed analysis of Vātsyāyana's comments on the other two pseudo-reasons : *sādhyasama* and *prakaraṇasama.* Since H.N. Randle wrote a somewhat pioneering work on these issues (*Indian Logic in the Early Schools*, Oxford, 1930), I shall examine some remarks made by Randle in this connection.

Scholars have usually translated the term *sādhyasama* occurring in early Sanskrit philosophical texts as *petitio principii.* Curiously enough, H. N. Randle used '*petitio principii*' to translate *prakaraṇasama*, one of the five defects of inference mentioned in the *Nyāyasūtra.*[1] While commenting on *sādhyasama*, however, Randle remarked :

> This clearly resembles the preceding fallacy (*prakaraṇasama*) in being a kind of begging the question: and this kinship with the previous fallacy is, no doubt, indicated by the word 'and' with which the present *sūtra* commences.[2]

Randle expressed also a word of caution regarding the use of '*sādhyasama*' in the Mādhyamika texts. Professor K. Bhattacharya in his recent note[3] shows that Randle's misgivings about the interpretation of *sādhyasama* in the Mādhyamika texts were right. It is also to be noted that the usual translation of *sādhyasama* in the Nyāya context as *petitio principii* (which even Randle seems to have suggested) is not only imprecise but also incorrect.

Sādhyasama, like *petitio principii*, is a defect in the argument and, hence, can be better explained in the context of an argument. First, we must be clear about what we understand by *petitio principii* as well as what we understand by a defect or a logical fallacy. It is better to clarify here the notion of fallacy.

Let us define a fallacy as an invalid or unsound form of argument. An argument or reasoning involves a transition from a

[1]*Nyāyasūtra* 1.2.4.

[2]Randle, p. 197.

[3]See K. Bhattacharya's article in *Journal of Indian Philosophy* (1974), pp. 225-230.

set of premises or some evidence to a conclusion. A false belief is not called a fallacy, since it does not involve an argument. From a practical point of view, however, 'fallacy' is very often used in a much extended sense. Traditionally, any mistake or confusion in the context of an argument or proof is called a *fallacy*. Thus, apart from fallacies that can be called 'formal' because of their relation with some formal logical system, there are fallacies in non-deductive inferences, as well as fallacies in philosophic arguments or discourses. The 'non-formal' fallacies are called fallacies actually in the extended sense. It is to be noted that an argument with such a 'non-formal' fallacy could be wrong, though it may be formally valid.

A *petitio principii* is a fallacy in the extended sense noted above. It denotes an argument that 'begs the question'—an argument that uses the conclusion to be arrived at as one of the premises. What we call 'arguing in a circle' is also a *petitio principii.* We argue in a circle when we defend a statement by another statement and when asked to defend the second statement we defend it by the first statement.

A *petitio principii*, it is to be noted, can be a formally valid argument. A conclusion can very well be entailed by a set of premises that happens to include the conclusion itself. Thus, arguing in a circle can be formally valid!

A *petitio principii*, therefore, is very different from a fallacy like (say) the *illicit minor* in the traditional theory of categorical syllogism based upon what is called 'the distribution of terms'. An *illicit minor* is said to occur when the 'minor term', i.e., the subject of the conclusion, is *distributed* in the conclusion (in other words, the conclusion is an *A* or *E* proposition) but not in the minor premise. In short, it is a fallacy, since it violates a formal rule of categorical syllogism.

It is also instructive to note Aristotle's comment on *petitio principii:*

> *Petitio principii* falls within the class of failure to prove the thesis to be proved; but this may happen in several ways. One may not reason syllogistically at all, or one may use premises no better known than the conclusion, or logically posterior to it. None of these constitutes *petitio principii.*[1]

[1]Aristotle, *Prior Analytics* 64^b 28-32, p. 143.

I shall later come back to the detailed comments of Aristotle on *petitio principii*. With the above as a prelude, let us now investigate the meaning of the term *sādhyasama* in early Nyāya texts. *Nyāyasūtra* 1.2.8 says :

> *sādhyāviśiṣṭaḥ sādhyatvāt sādhyasamaḥ.*[1]

Randle translates :

> (And) a reason which is indistinguishable from *probandum* in respect of having to be proved is called the reason which is 'identical with the *probandum*.[2]

I suggest the following translation :

> A reason that is non-distinguished from what is to be proved is called *sādhyasama* (= one having the same predicament as that of what is to be proved) because it (itself) needs to be proved.

Now let us follow Vātsyāyana's explanation of this *sūtra.*[3]

> The proposition to be proved is : Shadow is a substance.[4] The reason is that it moves. This reason is not distinguished from the proposition to be proved. It is in the same predicament with what is to be proved because it itself needs to be proved. (To explain :) This reason is itself unestablished (unproved) and, hence, should be established as true (proved) just as the proposition to be proved is supposed to be. One has to decide (establish) the following : Whether a shadow, like a man, moves, or whether what is apprehended is a series of non-presence of light arising out of a series of successive coverings as the covering substance moves. (In fact) the non-presence of those portions of light that are cut off (covered) by the moving substance is continuously apprehended. 'Covering' means the rejection of its (the light's) approach (to some place).

[1]Randle reads a '*ca*' (='and') in the *sūtra*, but no '*ca*' is present in G. Jha's reading. See Jha's edition, p. 63.

[2]Randle, p. 197. For the reason explained in note 1 in p. 47 of the book, I have put 'and' in parentheses.

[3]Vātsyāyana, pp. 63-64.

[4]The term *sādhya* in this context stands for the entire proposition to be proved. And likewise the term *hetu* means the proposition used as a premise of the argument.

Vātsyāyana's explanation of *sādhyasama*, as will be clear from the above, enjoys the benefit of both worlds. While it is suitable as a defect of inference as it was in the *sūtra*, it also contains the seed of the later theory by which *sādhyasama* can be turned into a well-entrenched fallacy, viz., the *svarūpāsiddha* of the later Nyāya. The earlier theory of inference in the Nyāya tradition was something like the following. An inference was treated as a transition from one statement or cognition to another statement, or cognition with the implicit help of an implication-rule. The first statement (premise) was called a *hetu* 'reason', and the second statement was called a *sādhya* 'proposition to be proved'. We can illustrate the process as follows :

Hetu 'reason' :—a shadow moves.
Sādhya 'what is to be proved' : a shadow is a substance.
The required implication-rule : Having motion implies being a substance.

In the explicit statement of 'steps' in the argument (which is technically called *nyāyavākya* or *avayava*, or the so-called nyāya syllogism), the third 'step' is called *udāharaṇa* 'exemplification', which consists in the statement of the implication-rule along with an instantiation of it, i.e., an actual 'example' (= *dṛṣṭānta*). An 'example' is defined as a case which is unanimously established.[1] Care should be taken to note that the conclusion arrived at as the fifth 'step' in this process of argument, is neither identical nor equivalent to the first 'step' called *pratijñā*, i.e., the statement of the *sādhya* or thesis to be proved. The conclusion arrived at in the last 'step' is a mixed judgement of the form :

"Since a shadow moves, it is a substance."

It is assumed in this theory of inference that the statement called 'reason' *hetu* (*sādhana*, not *sādhana-dharma*) must be established beyond doubt (i.e., its validity should be established) before it can warrant the transition from it to the conclsion.[2] In other words, statement of the reason should not have the same dubious status (as far as its validity is concerned) as the *sādhya*

[1]*Nyāyasūtra* 1.1.25.
[2]Compare Aristotle's comment in a similar context : "Demonstration always proceeds from what is prior and more certain." *Prior Analytics*, 64b 32-33.

'proposition to be proved'. It should be noted that the validity of the proposition to be proved, before the process of inference is complete, is doubtful, i.e., not yet established. Inference, according to Nyāya, is a passage from the known or 'establised' to the unknown or 'doubtful'. This point is emphasized by the *Nyāyasūtra* when it accepts *saṃśaya* 'doubt' as the very starting point of the nyāya debate procedure. As Vātsyāyana himself points out, we use inference with regard to something about the validity of which we entertain a doubt.[1] But the reason adduced for the required conclusion cannot be equally in doubt. It cannot be an uncertain premise, for, then it cannot be used to certify the thesis or the proposition to be proved. However, when the reason adduced is less certain than the proposition it tries to prove or establish, the fallacy called *sādhyasama* arises. This fallacy, then, is not certainly what we understand by a *petitio principii*. To recall the comment of Aristotle (which apparently was the source of Randle's logical terminology) :

> ...but this (failure to prove the thesis to be proved) may happen in several ways. One may not reason syllogistically at all, or *one may use premises no better known than the conclusion*, or logically posterior to it. None of these constitutes *petitio principii*.[2]

For, according to Aristotle :

> It is *petitio principii* when one tries to prove by means of itself what is not self-evident.[3]

It is clear that when the second situation mentioned by Aristotle (see the italicized expression in the passage quoted above) obtains, we have a case of *sādhyasama*. Aristotle in no uncertain terms denies this to be *petitio principii*.

It is, therefore, difficult to see why modern scholars who were supposed to be familiar with Western logical terminology would interpret, as they did, *sādhyasama* as 'begging the

[1]Vātsyāyana, p. 3 : "*tatra nānupalabdhe na nirṇīte 'rthe nyāyaḥ pravartate kim tarhi, saṃśayite 'rthe.*"

[2]Aristotle, *op. cit.* The expression within parentheses is mine, and the first italics is mine for the sake of emphasis.

[3]*Ibid.* 64b 36-37. Another version of the same is : "...whenever a man tries to prove what is not self-evident by means of itself, then he begs the original question.", p. 93 of *The Basic Works of Aristotle.*

question' or '*petitio principii*' or even 'arguing in a circle'. If I have to express the Sanskrit term *sādhyasama* by an adequate English expression, I would call it the fallacy of 'having the same predicament with the proposition to be proved'.

The upshot of the above discussion is this. In a comparative study of logic, if we blur the distinction rather than underline it, this will give rise to further confusion rather than clarification. The method of comparative study in logic and philosophy should be used with great care, caution, and with adequate checks and control over our tools.

In the above discussion I have interpreted the terms *sādhya* and *hetu* as statements or propositions. It is important to realize that in the earlier texts these two expressions were used to mean, more often than not, statements or propositions rather than what we call 'terms' (i.e., constituents of a proposition). Even the expression *pakṣa* was used sometimes synonymously with *sādhya* 'proposition to be proved'. However, the main use of *pakṣa* in earlier texts was in connection with its counter-term *pratipakṣa*. In this context, *pakṣa* meant the thesis of the proponent and *pratipakṣa* meant the counter-thesis of the opponent. In other words, *pakṣa* and *pratipakṣa* are used to denote two sides of an argument or a controversial issue. Thus, in the definition of *nirṇaya* 'decision' in *Nyāyasūtra* 1.1.41, it is said :

> '*vimṛśya pakṣa-pratipakṣābhyam arthāvadhāraṇaṃ nirṇayaḥ.*'
> 'After deliberating over the thesis and the counter-thesis, when a certainty with regard to an object is reached, it is called a DECISION.'

When the later theory of inference was developed by Dignāga, Praśastapāda and Uddyotakara these three expressions, *pakṣa*, *sādhya* and *hetu*, were used to denote the three 'terms' with the help of which the process of inference functions. In this 'new' theory, *pakṣa* meant the locus of inference, the substratum in which the other two properties, *sādhya* and *hetu*, were supposed to reside. *Sādhya* meant the inferable property which was intended to be established as occurring in the 'locus' *pakṣa*. And *hetu* meant the other property which was already established as occurring in the 'locus' and invariably connected with the *sādhya* as well. Inference, under this new theory, is interpreted roughly as a process by which we try to establish that *A* (=*pakṣa*) is charac-

terized by *C* (=*sādhya*) on the basis of *C*'s connection with *B* (=*hetu*) and *B*'s presence in *A*. Certain formal rules of inference were formulated in this system. Violation of these rules gives rise to 'defects' or 'fallacies' in our extended sense.

Thus it is that if *B*'s presence in *A* is in doubt, i.e., 'not established' (*a-siddha*) as certain, we would have a fallacy in the system called *svarūpāsiddha*, 'the essentially unestablished reason'. Here, again, Randle confused the issue by comparing this fallacy with the western schoolmen's 'illicit process of the minor'.[1] The illicit process of the minor, as I have noted earlier, was based upon the very confused theory of distribution of terms. But, as P. T. Geach has shown, this doctrine of distribution of terms was 'wholly unknown to Aristotle', and it is such an incoherent theory that it should be discarded so that logic may progress.[2] The fallacies that were supposed to be captured by the theory of distribution of terms, however, need not be discarded. For, a more coherent theory can be formulated in order to locate these fallacies in the forms of argument. It should be noted that a doctrine parallel to the doctrine of distribution of terms was never formulated in the Indian tradition. Hence, although for the sake of convenience we can describe *pakṣa*, *sādhya* and *hetu* as 'terms', as opposed to propositions, they do not behave essentially as 'terms' the way the minor, major and middle terms are supposed to behave under the theory of distribution.

To distinguish between the two senses of *sādhya*, *sādhya* as a proposition to be proved and *sādhya* as the inferable property, Vātsyāyana sometimes used the expression *sādhya-dharma* to denote the latter. This procedure was also followed by Dignāga and Uddyotakara. But as this never became a strict rule of usage with these three authors, we have many occurrences of *sādhya* which are systematically ambiguous in meaning in earlier texts.

Let us now examine the notion of *prakaraṇasama*, which, according to Randle, closely resembles the notion of *sādhyasama*. In fact, Randle calls *prakaraṇasama* directly *petitio principii*. This was another case of incorrect interpretation by Randle, as

[1]Randle, p. 251n.
[2]See Geach, *Reference and Generality*, Cornell: Ithaca pp. 3-21.

we shall see presently. Moreover, Randle was misled by Vātsyāyana's example in this case and reached a very strange conclusion that *prakaraṇasama* had 'affiliation' with the *asādharaṇa* fallacy of the later school!

The *prakaraṇasama* is defined as follows :

Nyāyasūtra 1.2.7: *yasmāt prakaraṇacintā sa nirṇayārtham apadiṣṭaḥ prakaraṇasamaḥ.*

Randle translates :

> When the quality from which the question arises is adduced as proving (one of the alternative), the reason is called *prakaraṇasama, petitio principii,* 'identical with the question'.[1]

I suggest the following translation :

> If the situation (reason) from which the 'deliberation' (*cintā*) regarding a 'controversial context' (=*prakaraṇa*) arises, is adduced as a reason for reaching a decision, it is called *prakaraṇasama,* (the fallacy of) 'indecision'.

Both terms, *prakaraṇa* 'controversial context' and *cintā* 'deliberation', are used in this context in their technical sense, as Vātsyāyana clearly explains. I shall now translate Vātsyāyana's explanation of this *sūtra* :[2]

> 'Controversial context' means the (presence of) two sides, thesis and counter-thesis, both of which are subjected to doubt, and (hence) of uncertain validity (for the moment). 'Deliberation' about it means the investigative procedure starting from the arising of doubt up to the step that is prior to the decision. When that which gives rise to this controversial context is applied (as a reason) for reaching a decision, it is called *prakaraṇasama,* and since this reason is common (i.e., commonly applicable) to both the (opposing) sides, it does not lead to a decision. To illustrate : sound (noise) is impermanent (non-eternal) because we do not apprehend in sound properties of eternal things. It is seen that in pots, etc., we do

[1]Randle, p. 195.

[2]Vātsyāyana, pp. 62-63. The passage enclosed in brackets (...), is not found in Jha's printed text. But MM. Phanibhusana Tarkavagisa in his Bengali edition notes that this additional reading is found in some manuscripts. The additional reading obviously explains the example a little further.

not apprehend the properties of eternal things and they are non-eternal.

[Sound is eternal because we do not apprehend in sound properties of non-eternal things. It is seen that in the sky, etc., we do not apprehend the properties of non-eternal things, and they are eternal.]

A property that is common to two (alternative positions) causes doubt (comprising those two alternatives). When such a common property is adduced as the reason, it becomes a *saṃśayasama*, which is just a *sa-vyabhicāra* (a fallacy of) 'inconclusive reason'. But the fact that doubt depends for its (eventual) resolution upon (the awareness of) a specific property (belonging to either side) as well as the fact that no specific property is apprehended in either side, gives rise to a 'controversial context'. Just as the properties of eternal things are not apprehended in sound, so also the properties of non-eternal things are not apprehended therein. This non-apprehension of the specific property in either side gives rise to the 'deliberation' regarding the controversial context. How? For, the controversy ends if it happens otherwise. If the property of eternal things is apprehended in sound, the controversy ends. And if the property of non-eternal things is apprehended therein, the controversy ends as well. Thus, this reason gives rise to both positions (in the cotroversy), and does not lead to any decision with regard to either of them.

If we follow the above explanation of Vātsyāyana, it is hard to see why *prakaraṇasama* should be indentified with *petitio principii*. Even Randle's literal translation of *prakaraṇasama* as 'identical with the question' is puzzling. *Prakaraṇasama* should better be translated as 'the fallacy of indecision'. It is certainly not a formal fallacy, and in this respect it agrees with *sādhya-sama* 'the fallacy of having the same predicament'. It is necessary to distinguish this fallacy from a well-known fallacy like *sa-vyabhicāra* 'the fallacy of deviation or inconclusive reason'. The latter fallacy arises when the required implication-rule does not hold. For example,

Sādhya 'the thesis to be proved' : Sound is eternal.
Hetu 'reason' : For, sound is intangible.

The required implication-rule : Being intangible implies being eternal.

But this implication-rule fails because of the citation of a counter-example : States of consciousness which are non-eternal (transient) are also intangible. I have already discussed this *hetu-doṣa*. Let me further deal with this so-called 'defect' of the reason. '*Vyabhicāra*' means a counter-example which falsifies the required implication-rule. The technical term *sa-vyabhicāra* means a case where a counter-example is present. When the reason adduced allows a counter example, the required implication-rule fails.

Vātsyāyana's explanation of this fallacy under *Nyāyasūtra* 1.2.5 was a bit involved and somewhat confusing. (See before). He attempted to explain not only the term *sa-vyabhicāra* but also the term *anaikāntika* in the same breath. The *sūtra* explained *sa-vyabhicāra* as *anaikāntika*. This means that *anaikāntika* was more familiar and less technical in meaning than *sa-vyabhicāra*. The term *anaikāntika* was, perhaps, in use in the earlier texts which discussed the rules of a philosophic debate or controversy with two opposing sides, a thesis and a counter-thesis. For example,

Thesis	Counter-thesis
Sound is eternal.	Sound is non-eternal.
Hetu : For, sound is intangible.	

Now, being intangible can neither imply eternalness nor non-eternalness. Or, to put in another way, being intangible can as much prove being eternal as it can prove being non-eternal. In fact, being intangible is the property common to both sides. Just as an eternal thing, the sky, is seen to be intangible, so also a non-eternal thing, a state of consciousness, is seen to be intangible. Thus, being intangible is *anaikāntika*, i.e., indecisive in favour of either side, the thesis or the counter-thesis. What was called *anaikāntika* in the context of a debate, was explained as *sa-vyabhicāra* in a general theory of inference. This, I think, accounts for the obscure explanation of 'the inconclusive reason' in the early texts.

It should be noted that there is some similarity in this regard between a *sa-vyabhicāra* and a *prakaraṇasama*. Both resist a decision in favour of either side. That is why, Vātsyāyana tried to distinguish *prakaraṇasama* from *saṃśayasama* = *savyabhicāra*

while he was explaining the former (see above). The point to be remembered in this connection is as follows. The *savyabhicāra* 'inconclusive reason' consists in the employment of a common property (*sādhāraṇa dharma*) as the reason which will result in a doubt of the form: "Perhaps sound is eternal, or perhaps it is non-eternal'.[1] But, in *prakaraṇasama* 'the fallacy of indecision', no common property is adduced as the reason so as to give rise directly to a doubt of the above form. What is rather emphasized in this case is the lack of knowledge about a specific property, i.e., a decisive factor, in favour of either side. And this lack of knowledge of a decisive factor leads only to an indecision.

It is, however, enough for the fallacy of deviation (or, 'inconclusive reason') to arise, if there is deviation (= *vyabhicāra*), i.e., if there is a counter-example. This requirement about the absence of deviation, i.e., absence of a counter-example, violation of which results in the fallacy of deviation, gradually became prominent in the later theory of inference, for, it actually supplied the universal relation needed as the basis of a correct inference. It is to be noted that although in the Nyāya tradition the theory of inference needed, like the traditional Western syllogism, two premises, it contained one particular premise (a singular proposition, which was called *hetu*) and an implication-rule. However, implication with impossible antecedents was excluded. The theory insisted on an actual instantiation of the implication-rule, a *dṛṣṭānta* or a case where the rule is illustrated. The requirement about instantiation made another point clear in Indian logic, a point that was left ambiguous in the traditional Western logic: the universal proposition that might express the implicative premise must not have its subject-class empty.[2]

Randle commented in the context of his explanation of *savyabhicāra* as follows:[3]

> The quantitative formalism of the western syllogistic is, therefore, quite alien to Indian logic: and the attempt to identify the two schemes of fallacy can only lead to confusion.

[1]See *Nyāyasūtra* 1.1.23.

[2]For criticisms of such ambiguity in traditional Western logic, see Strawson, pp. 163-179. It is important to realize the function of examples in the Indian theory of inference in the light of these comments.

[3]Randle, p. 193.

It is worth pointing out that this remark was based on a confusion. Randle was, of course, right in his second statement here. But what he had in mind while he made the first statement is difficult to understand. In a footnote to this sentence, he added that the Vaiśeṣika-Bauddha logician explained the fallacy of deviation from a formal standpoint, but that the earlier Nyāya school was concerned to examine only examples and counter-examples. The comment was obviously based upon the unacceptable view that the early Nyāya theory of inference was merely that of analogical inferences based upon examples and counter-examples. This view has been widespread among the Indological scholars, but it should rather be discarded. It is true that Vātsyāyana's explanation of *anaikāntika* in the context of a public debate, with examples and counter-examples, was a bit misleading. But the truth is that Vātsyāyana was a clumsy writer and, hence, confusingly reported the history of a term along with its logical role. We should know, however, that examination of examples and counter-examples does not, by itself, make a theory of logic less formal or less general.

Let us revert to the distinction between the fallacy of 'indecision' (*prakaraṇasama*) and that of the 'same predicament' (*sādhyasama*). I have already established above that they are not *petitio principii*, nor 'begging the question' in particular. The situation in the Nyāya school was further complicated by the citation of the same terms to denote two of the twenty-four different *jātis* 'sophistical refutations'. *Nyāyasūtra* 5.1.1 supplies the list of twenty-four sophistical refutations or *jātis* in a philosophic dispute or debate. (See § 1.2). The eighth and the fifteenth of this list are also called *sādhyasama* and *prakaraṇasama*. To some, this has been a bit confusing. But, if we keep in mind the distinction between the two general categories under which they are included, there should not be any confusion regarding their interpretation. One is the category of fallacies (cf., *hetvābhāsa*), which we have discussed above. The other is the category of sophistry (cf., *jāti*). A fallacy is not a sophistry. A fallacy is a mistake in the argument, in this case, an inference. But a sophistry is a deliberate use of unsound reasoning, of a fallacious argument, for a rejoinder. One can indulge in a sophistical device by intentionally using a fallacy to deceive the opponent or to win an argument unfairly. Or

it may be used to confuse the issue for the time being. Thus, the sophistical device (i.e., the use of *jāti*) is explicitly excluded from a debate which the Nyāya calls the *vāda* variety of debate.[1] Most of the sophistical refutations found in the Nyāya list assume that the argument used as a rejoinder is not based upon the required implication-rule of inference, but only on some superficial similarity or analogy. The very fact that the early Nyāya school recognized these rejoinders as sophistical and also discussed the means by which one should solve problems posed by such rejoinders (cf., *uttara*), goes a long way to show that the early Nyāya theory of inference was not based upon analogy and examples. And the doctrine of *hetvābhāsa* 'fallacious reason' certainly required that inference in the early Nyāya school must be based on sound implication-rules.

A brief comment on the use of the term *sādhyasama* in the early Mādhyamika texts may be in order (for more on this point see the article by K. Bhattacharya). In the *Mādhyamika-kārikā*, Chapter IV, Nāgārjuna notes in the two concluding verses (8, 9) a general pattern of most Mādhyamika arguments. The simple meaning of verse 8 here seems to me to be this: If a reason is adduced to refute the Mādhyamika thesis of emptiness in a philosophic dispute (where an opponent is present), it will not constitute a refutation, for, it will enjoy the same predicament along with the proposition to the proved. The second verse, verse 9 in the context, says the same thing with a slight variation: If a reason is adduced for questioning the validity of the Mādhyamika thesis of emptiness in the context of an explanation of the doctrine to the disciples (cf., *vyākhyāna*), it will not be a proper question, for, the reason will have the same predicament as that of the proposition to be proved. Or, the point may be that in either case (i.e., either in a dispute or in *vyākhyāna*) the supposed refutation of the doctrine of emptiness will be baseless, since it will be a false refutation (a *jāti*) like the *sādhyasama*. We should note here that no matter whether *sādhyasama* is interpreted as a fallacy or as a sophistry, the Mādhyamika thesis of emptiness will remain unharmed, i.e., unrefuted.

Thus, I venture to suggest that the term *sādhyasama* as it

[1]See *Nyāyasūtra* 1.2.1-1.2.3.

was used in the early Mādhyamika texts was not, contrary to what Randle suggested, very different in meaning from the term *sādhyasama* found in the early Nyāya texts. In fact, once we have realized that Randle's interpretation of the *sādhyasama* in the Nyāya texts is wrong, we can see that both the Nyāya and Mādhyamika texts use *sādhyasama* in more or less the same manner. However, not a few modern scholars of repute uncritically assumed that Randle's interpretation was correct. It is important to realize that in the recent history of the study of Indian logic, once an eminent scholar commits a mistake in interpretation (for whatever reasons), most later scholars accept the interpretation as valid without going into the trouble of examining it further. But, they then often worry about other related problems that such a wrong interpretation will generate.

I am, however, in agreement with K. Bhattacharya, and also in partial agreement with Randle, on the point that the term *sādhyasama* in the early Mādhyamika texts cannot be interpreted as *petitio principii*. For, it is one thing to say that the conclusion is assumed in the premises, and another to say that the reason or the justifying example (which was in the Mādhyamika argument the concept of *rūpaskandha* 'aggregate of matter') needs to be established beyond doubt before it could claim any justificatory force. Just as a blind person, to quote a Sanskrit proverb, cannot lead another blind person to his destination, so also a reason which is itself in need of being established cannot establish another proposition.

§ 1.6 : What do we Infer ?

In one's theory of inference, the question 'What is known through inference?' (in other words, 'What is the nature of *anumeya*?') seems to be a pertinent question. In developing his theory of inference, a logician must at a certain point answer this question. In ancient India, at a particular period, a great deal of discussion centred around this crucial question. Dignāga, for instance, discussed several alternative answers to this question, none of which he found satisfactory. At the end of his discussion, Dignāga gave his own view about *anumeya*. Uddyotakara[1] under *Nyāyasūtra* 1.1.5 referred to several other alternative answers to the above question. He criticized, as usual,

[1] *Nyāyavārttika*, Chowkhamba, Varanasi, 1915, p. 50-51.

Dignāga's view and incidentally mentioned a new view which he supported. But inspite of Uddyotakara's critique, Dignāga's view seems to have been more acceptable to later logicians like Kumārila.[1]

Dignāga's discussion of *anumeya* is contained in the four verses (verses 8-11) of Chap. II of *Pramāṇasamuccaya*. Although the original Sanskrit work is lost, these four verses are found in Vācaspati Miśra,[2] *Nyāya-vārttika-tātparya-ṭīkā*. Dignāga's own *Vṛtti* (to be called *Svavṛtti* henceforward) on these verses are available only in Tibetan translation.[3] H.N. Randle[4] translated the Sanskrit verses into English in his *Fragments from Dignāga*. Randle did not use the Tibetan *Svavṛtti*, but closely followed Kumārila's rephrasing of Dignāga's discussion in his English translation of these four verses. It will be shown here that Randle misinterpreted Dignāga in at least one place. It will be shown further that while Dignāga's main thesis on the nature of *aṇumeya* (i.e., *dharma-viśiṣṭa-dharmy anumeya*) was well understood by later logicians, certain other points in his critique of alternative views were misunderstood and wrongly interpreted by his successors in Sanskrit philosophy. This misunderstanding started, perhaps, with Vācaspati Miśra or some time after him. It will also appear that the later Naiyāyikas like Vardhamāna Upādhyāya did not consult Dignāga's own *Vṛtti* on these verses, although it is conceivable that the original Sanskrit

[1]*Mīmāṃsā-ślokavārttika*, Chowkhamba, Varanasi, 1898-1899, *Anumāna-pariccheda verses* 23-24.

[2]*Nyāyavārttikatātparyaṭīkā*, Kashi Sanskrit Series, Varanasi, 1925, p. 180. The verses are : (*Pramāṇasamuccaya*, Chap. II) :

kecid dharmāntaraṃ meyam liṅgasyāvyabhicārataḥ/
sambandhaṃ kecid icchanti siddhatvād dharmadharmiṇoḥ //8//
liṅgaṃ dharme prasiddhaṃ cet kim anyat tena mīyate/
atha dharmiṇi tasyaiva kim-arthaṃ nānumeyatā //9//
sambandhe 'pi dvayaṃ nāsti ṣaṣṭhī śrūyeta tad-vati/
avācyo 'nugṛhītatvān na cāsau liṅga-saṃgataḥ //10//
liṅgasyāvyabhicāras tu dharmeṇānyatra dṛśyate /
tatra prasiddhaṃ tad-yuktaṃ dharmiṇaṃ gamayiṣyati //11/

[3]Tibetan Tripiṭaka, Peking edition, Mdgho-rel XCV, Ce. No. 5701 : Vasudhararakṣita. No 5702 : Kanakavarman.

[4]*Fragments from Dignāga*, The Royal Asiatic Society, London, 1926, p. 18-21.

Svavṛtti of Dignāga was available at the time when they wrote their own work.

It will be necessary for our purpose to give an explanatory translation of the four verses of Dignāga in the light of his own *Vṛtti* on them. The Tibetan version[1] of the *Vṛtti* will be used to settle ambiguity of the verses. *Pramāṇasamuccaya*, Chap. II, verse 8 states that, according to some, a different property, viz., fire, is what we infer from the known property (smoke), because the inferential mark, smoke, is in invariable relation with that different property, viz., fire. (Let us call the upholder of this view Opponent A.) According to others (let us call this group of thinkers Opponent B), it is the relation of fire to the place, mountain, is what we know through inference, since both the *dharma* (the property fire), and the *dharmin* (the property-possessor mountain) are known already as established objects. (It is understood that the object of our knowledge acquired through inference cannot be an already known object.)

Criticizing the first view (Opponent A), Dignāga says in verse 9: If the property, smoke, is well-known as being related to fire it would not be proper to say that we infer fire from smoke. (It is to be understood that when seeing a body of smoke one remembers the relation between fire and smoke, the other property, fire, becomes an already known object, and, hence, there will be no room for inference). If however, it is asserted that we infer the other property, fire, as characterizing the locus, mountain, why do we not say that the place itself which possesses fire is what is our *anumeya* ?

The second view (that of Opponent B) is criticized in verse 10: The relation (*sambandha*) in question does not possess the two characters (viz., fire and smoke) which an object should possess in order to be an *anumeya*. (It should be admitted that the object of inferential knowledge, i.e., the *anumeya*, is connected, in the first place, with the *sādhana*, viz., smoke, and then with the *sādhya*, viz., fire). If the relation between the mountain and fire were our *anumeya*, one would expect in the verbal expression of our inferential thesis (*pratijñā*) a genitive case-ending in the word expressing the adjunct of such relation.

[1] I like to thank here my esteemed friend Professor Masaaki Hattori of Kyoto University, Japan, who helped me in reading the *Svavṛtti* of Dignāga upon the aforesaid four verses.

In other words, the verbal expression would be of the form "There is the relation of fire here (*atra vahneḥ sambandhaḥ*)", and not of the usual form "There is fire here (*atra vahniḥ*)." In asmuch as the said relation is only implied, not expressed, by the inferential thesis "*atra vahniḥ*" we have no right to call such relation the *anumeya*. Moreover, the said relation is not connected with the *sādhana* (viz., smoke, the inferential mark).

Randle gave a slightly wrong interpretation of this verse.[1] He thought that if the said relation was accepted as *anumeya* we would expect the genitive in the inferential thesis in order to express that relation. He contrasted the usual form of inferential thesis "There is fire in the mountain (*parvate 'gnir asti*)" with the unacceptable form "There is fire of the mountain (*parvatsyāgnir asti*)". He also quoted Pāṇini's rule "*ṣaṣṭhī śeṣe*" II. III. 50 and indicated that the genitive expresses mere relation, and not a *kāraka*-function like the locative. But it is evident from our above interpretation that these remarks of Randle were beside the point. Randle was thus puzzled when he saw that another acceptable form of the inferential thesis "The mountain is fiery (*parvato vahnimān*)" does contain the possessive suffix *matup* (=*mān*) which also expresses *mere* relation.[2] But, this confusion stems mainly from his misunderstanding of Dignāga's point about the genitive case-ending.

Verse 11 gives Dignāga's own view about *anumeya*. The invariable connection of the inferential mark, smoke, with the property fire is seen in other places; and the inferential mark, being well established in such other places, leads us to infer the present property-possessor (*dharmin*), viz., the mountain, possessing the property, fire.

Uddyotakara inserted the discussion of *anumeya* while he was explaining the meanings of the terms *pūrvavat*, etc., in *Nyāyasūtra* 1.1.5. The gist of his arguments on the notion of *anumeya* can be stated as follows. What we know by inference through the inferential mark, viz., smoke, is not another property, viz., fire, nor the place itself, nor the existence of fire, nor even the place as possessing fire. The *anumeya*, i.e., the object of inference, must be related to the inferential mark (*sādhana*) as a property to a property-possessor. Moreover, the object of

[1]See *Fragments from Dignāga*, p. 20 and footnotes 1 and 2 therein.
[2]*Ibid.*, p. 20, footnote 3.

inference should not be known in advance. None of the above things, viz., the property like fire, the place, or the existence of fire, can be said to be related to smoke, the inferential mark, as its property. And all of them become known before we reach the conclusion of the inference. The particular place, viz., the mountain, which possesses fire (Dignāga's own view) cannot also be regarded as the *anumeya*, because smoke, the ***sādhana***, is not known to be a property of this complex (viz., the mountain characterized by fire). We do not actually see the place that possesses fire, but we see only smoke coming out of a particular place. If Dignāga says that the observed smoke by virtue of its invariable connection with fire leads us to infer the particular place as possessing fire, it might be asked, what is meant by this invariable relation (*avinābhāva-sambandha*)? It cannot mean an invariable co-occurrence in the same locus, because a body of smoke is sometimes seen hovering in the sky without fire. It is also seen that a body of fire (in a red-hot iron ball) is unaccompanied by smoke. Thus, since the invariable relation itself, of smoke with fire, cannot be established beyond doubt, it is not proper to say that we infer the place as possessing fire through the inferential mark, smoke, on the basis of its invariable relation with fire. What we infer is that this body of smoke (perceived on the mountain) possesses fire too (as its qualifying adjunct). According to Uddyotakara, in an inferential situation, the particular smoke is perceived and along with it the property of its continuously rising upwards from a particular source and such other characteristics (*cf.*, *sātatya-saṁhatya-ūrdhvagati-svabhāvādayo dharmāḥ*, Uddyotakara, p. 51) are also perceived. What is not perceived is that this particular smoke is also characterized by, i.e., connected with, fire. Hence, this unperceived factor viz., this smoke possesses fire, is what is grasped by inference. Uddyotakara repeated the same view about *anumeya under Nyāyasūtra* 2.1.46.[1]

This view about the nature of *anumeya* is a bit peculiar. Instead of accepting the propositional complex, the mountain possessing fire, as the object of our inference, we have to admit, under this view, another complex, viz., this particular smoke, because of its certain peculiar characters, is related to fire also,

[1] *Nyāyavārttika*, Chowkhamba, Varanasi, 1915, p. 258.

as the object of inference. Jayanta Bhaṭṭa[1] mentioned this view about the *anumeya* in a couple of places of his *Nyāyamañjarī*. As far as I can see, this view seems to be a more sophisticated rephrasing of an older view. According to the earlier logicians, inference is what extends our knowledge by informing us of the unperceived fact from the perceived one. Thus, inference becomes a function of two terms only, the property to be inferred and the inferential mark.[2] In this theory of inference, the minor term (to use Aristotelian terminology) does not play any important role. From the existence, or presence, of certain property (or, properties) we infer the existence, or presence, of certain other property accompanying the former property. Uddyotakara gave simply a refined version of this theory. Even the well-known case of inference "Sound is non-eternal because it is produced" was understood by Uddyotakara in this way. Sound or noise is a known entity, so is its property of being produ ced. Since the non-eternalness of sound is not known, we infer non-eternalness of sound from the property of its being produced.[3]

Uddyotakara's critique of Dignāga's view about *anumeya* sounds all right as far as it goes. It was admittedly not clear in Dignāga's exposition whether the locus (i.e., the place), which is the subject of the inferential thesis, should be known to us prior to the inference or not. In fact, Uddyotakara bases his objection upon the principle that the property-possessor (*dharmin*) as well as the inferential mark becomes known to us

[1]Compare : *yathā agnimān ayaṃ dhūmaḥ bahulapāṇḍutādidharmayogitvān mahānasāvadhṛtadhūmavad iti, dhūma evāgnimattayānumīyate. . . .*" *Nyāyamañjarī*, Kashi Sanskrit Series 106, Varanasi, 1934, p. 117. Compare also Jayanta's remark on p. 118. Curiously enough Jayanta quoted Kumārila Bhaṭṭa in both the places. But Kumārila, as I have already stated, supported Dignāga's view about the nature of *anumeya* although he mentioned other alternative views. Jayanta, on the other hand, had something like Uddyotakara's view in mind.

[2]The crudest form of inference was to derive the knowledge of x from our knowledge of y. Thus, in the earliest phase, the Vaiśeṣikas inferred the existence of soul, mind or the physical space (*ākāśa*) through our knowledge of their qualities such as cognition, desire and sound. In Nyāya tradition also, we infer future rain from the cloud and past rain from the fullness of the river.

[3]Compare: *śabdasyātmasattā prasiddhā kṛtakatvaṃ ca dharmas tv anitya-tvalakṣaṇo 'prasiddha iti/tad-viśeṣaṇo 'yam anumīyata iti*, (*Nyāyavārttika*, p. 51).

(*prasiddha*) and hence cannot form a part of our *anumeya*. Besides, Dignāga's use of the term "property-possessor (*dharmin*)" was ambiguous. To avoid the Lokāyata critique of inference, Uddyotakara pointed out that not in all cases, our perception of smoke will validate our inference of fire, but only of some particular type of smoke, such as, the one that continuously rises from a spot. If the locus or the minor term is thought to be a part of the inferential mark (the middle term), we can happily explain the earlier examples of inference found in the Nyāya tradition. Thus, we infer the future rain from the cloud and the past rain from the fullness of the river.[1] Later commentators, however, analysed these examples in such a way that we get the cloud as the minor term (*pakṣa* or the locus of inference) in the first case and the river (or the fullness of the river) in the second.[2] The middle term or the *hetu* crystallized, in the hand of the later commentators, as some specific character or characters (*viśeṣa*) of the minor term (or *pakṣa*), such specific character being experienced to be invariably related to the inferable property (the *sādhya*) or the major term.

Dignāga's theory of logic, like other contemporary systems of Indian logic, was based upon the principle that inference is a function of three terms, the property to be inferred (*sādhya*), the inferential mark (*sādhana*) and the locus (*pakṣa*) or the property-possessor. Dignāga's own view about *anumeya* (viz., we infer the propositional complex, the mountain possessing fire) was quite consistent with this principle of inference with three terms. Thus, Kumārila closely followed Dignāga in his discussion of *anumeya*. The two views (Opponents A and B) rejected by Dignāga were also noted by Kumārila; and he correctly understood the position of Opponent B. Vācaspati Miśra, after quoting verses 8-10 from Dignāga's *Pramāṇasamuccaya*, Chap. II, inserted the following explanatory remark: *na hi sambandhadharmatayā liṅgaṃ pramīyate, api tu deśa-saṃgatam ity arthaḥ*. But this explanation, presumably of verse 10d of Dignāga's work, was not consistent with Pārthasārathi Miśra's

[1]See Vātsyāyana's examples under *Nyāyasūtra* 1.1.5.

[2]Compare Uddyotakara's analysis : *vṛṣṭimanta ete meghāḥ gambhīradhvānavattve sati bahulabalākāvattve sati aciraprabhāvattve sati unnatimattvāt vṛṣṭimanmeghavad iti* (p. 47). Jayanta also gave similar analyses. See *Nyāyamañjarī*, p. 117-118.

explanation of a similar verse of Kumārila. Randle was rightly puzzled over this discrepancy.[1] But Randle did not notice that in the Nyāya tradition these verses (8-10) of Dignāga were given a slightly different interpretation. We shall see presently how Vardhamāna Upādhyāya, the celebrated Naiyāyika of the fourteenth century, explained these verses in his *Nyāyanibandhaprakāśa*.

Vardhamāna came across these verses of Dignāga while he was commenting on Vācaspati's *Tātparya-ṭīkā* and Udayana's *Tātparya pariśuddhi*.[2] Commenting on verse 8cd, Vardhamāna remarked: *pakṣāntaram āha / sambandham iti / agnidhūmayor iti śeṣaḥ kṛtaḥ.* This means that Opponent B of Dignāga holds that our *anumeya* is the relation between fire and smoke, and not the relation of fire with the mountain. Since Dignāga has mentioned the term "*sambandha* (relation)" in his verses without specifying the relata, it is quite possible for someone (who has not read his *Svavṛtti* on these verses) to interpret this as referring to the relation between fire and smoke. In fact, Vardhamāna construed the view of the opponent quite differently from that of Opponent B. Accordingly, I shall call this view that of Opponent C. In plain words, Opponent C maintains that what we infer is the relation between fire and smoke. In verse 10, Dignāga criticized Opponent B as I have shown above. But here too, Dignāga's arguments are given in such a language that one might, if one is not acquainted with the *Svavṛtti*, interpret them as rejecting the new view, i.e., that of Opponent C. Vardhamāna actually followed this course of explanation in order to be consistent with his earlier explanation. He commented on verse 10ab as follows: *sambandhaṃ sādhyaṃ dūṣayati / sambandhe 'piti/dvayaṃ vakṣyamāṇaṃ/ tatrādyam āha/ ṣaṣṭhīti/ yadi sambandho 'numeyaḥ syāt tadāgnidhūmayoḥ sambandho 'stīti ṣaṣṭhīśravaṇaṃ pratijñāvākye syād ity arthaḥ.* Here, it has been stated without ambiguity that if the relation was accepted as the *anumeya*, one would expect the statement of the inferential thesis to be of the form "There is the relation of fire and smoke." In other words, the two relata of

[1] *Fragments from Dignāga*, p. 20, footnote 4.

[2] *Nyāyavārttikatātparyapariśuddhi* by Udayanācārya with a Gloss called *Nyāyanibandhaprakāśa* by Vardhamāna Upādhyāya, Bibliotheca Indica, Calcutta, 1911 ff., p. 748-9.

the said relation would have genitive case-ending. Vardhamāna continued his remarks on verse 10c: *apratijñeyaḥ sambandha ity arthaḥ/kutaḥ dhūmavattvād agnir atrāstīty ata evāsmadabhimatāgniviśiṣṭadeśasādhyād arthato 'gnidhūmayoḥ sambandhasyāvagater ity arthaḥ.* This may be translated as 'The relation is not expressible in the statement of the inferential thesis. Why? Because, we come to know of the *relation between fire and smoke* by implication from what we grasp as the inferential object, viz., the place which is qualified by fire; and this is expressed as "there is fire here because it possesses smoke." It is evident that Vardhamāna was always referring to Opponent C, and not Opponent B.

If we keep the view of Opponent C in mind, we shall, perhaps, be in a better position to understand Vācaspati's remark under Dignāga's verse 10d. Apparently, explaining verse 10d of Dignāga (viz., "*na cāsau liṅgasaṃgataḥ*"), Vācaspati remarked: Furthermore, (the relation cannot be our *anumeya* because) the inferential mark is apprehended not as a property of the (said) relation, but as one connected with the place. It seems to me that Vācaspati interpreted "relation (*sambandha*)" in Dignāga's verse in the sense of the relation of fire with smoke. Moreover, there is a variant of verse 8cd noted in the footnote of the Kashi edition of *Nyāyavārttikatātparyaṭīkā*, p. 180 which reads: "*Sambandhaṃ kecid icchanti siddhatvāl liṅgaliṅginoḥ.*" Such a reading (or, perhaps, a misreading?) suggests that according to some (whom we have called Opponent C), what we infer is the relation between the inferential mark, smoke, and the possessor of such a mark, fire. I suspect that at least some Naiyāyikas understood Dignāga's verse 8cd in this way, and that Vardhamāna followed this Nyāya tradition. Commenting on verse 10d of Dignāga, Vardhamāna remarked: *na ceti/asau sambandho na liṅgena dhūmena saṁgataḥ sambandhaḥ liṅgadharmo na pakṣadharma ity arthaḥ.* What Vardhamāna meant is, perhaps, that the relation (which, according to him, is the relation of fire and smoke) is not a property of the inferential mark, and that, although the said relation is connected with smoke, it is not connected with the particular smoke which is our inferential mark, i.e., the body of smoke which is resident in the *pakṣa* (the mountain).

To sum up: we have tried to make two distinct points—one is

philosophical, while the other is philological. Inference, in its crudest form, was regarded as a function of two terms where we are concerned only with the inferential mark and the property to be inferred. But gradual awareness of logical problems led the Indian philosophers to analyse inference as a function of three terms. The minor term (i.e., the locus of inference) gradually rose to prominence. Dignāga's conception of *anumeya* is illustrative of this point. The philological (or, historical) point can be understood thus. One might ask: Was the variant "*liṅgaliṅginoḥ*" in verse 8cd an original variant of the manuscript of Dignāga's text? The answer is obviously negative because the Tibetan tradition does not show this variant. Thus, I believe that this variant was the result of a misreading by a later Naiyāyika. We cannot be sure when this misreading actually took place. But this incident eventually led to the confusion in respect of the views of Opponents B and C. One might further ask: Was the *Svavṛtti* of Dignāga on these verses (*PS*, Chap. II, 8-11) read by Vardhamāna Upādhyāya when he tried to explain these verses in his *Nyāyanibandhaprakāśa* ? Or, was he merely depending upon the explanation suggested by his Nyāya teachers? I believe the second alternative to be correct. This is rather an unfortunate fact. But, all the same this is an interesting point, because the Sanskrit text of Dignāga's *Svavṛtti* might well have been available at the time when Vardhamāna was writing his commentary. According to scholars, the last Tibetan translation of the *pramāṇasamuccayavṛtti* by Kanakavarman (and Dad-pa (ḥi) śes-rab) was done some time after the last quarter of the fifteenth century A.D.[1] The Sanskrit text of the *Svavṛtti* was definitely available when Vācaspati Miśra (tenth century A.D.) wrote his *Nyāyavārttikatātparyaṭīkā*, but I doubt whether Vācaspati was directly acquainted with Dignāga's *Svavṛtti* on these verses. Otherwise, Vācaspati's remark on Dignāga's verse 10d would have been pointless. It is, nevertheless, extremely odd that a well-reputed

[1]The name of the Tibetan collaborator (Dad-pa (ḥi) śes-rab) of Kanakavarman is not mentioned in *The Blue Annals* which was composed between 1476 A.D. and 1478 A.D. Thus, it seems that Kanakavarman appeared later than the last quarter of the 15th century. For more on this point see the Introduction of M. Hattori's book *Dignāga, On Preception,* H.O.S., 1968, p. 12-20.

Naiyāyika like Vardhamāna should explain these verses of Dignāga without reading his *Svavṛtti* on them. It is, however, conceivable that in the Mithilā Seminary where Vardhamāna Upādhyāya received his education, Dignāga's text was not available.

§ 1.7 : The 'Triple-Character' Of Reason

Inference leads to knowledge when it is based on an adequate evidence. An evidence is adequate when it not only suggests that something may be the case, but also excludes the possibility of the case being otherwise. When an evidence only suggests, we have a guess-work. When further it removes other possibilities, we have an inference.

Imagine the following dialogue :

M—Rama was born at midnight on January 31, 1970, at a town called Dee, (and he was the only child born there at that moment).

N—Oh ! Then Rama must be a happy man.

M—Why ?

N—I have never seen a man born on that date in that town to be unhappy.

M—But, have you seen such a man to be happy ?

Is the last question a stupid one ? If not, then we might have resolved a problem that is faced by any modern interpreter of Dignāga's theory of inference based upon what he called 'triple-character' *hetu*. For, we may rewrite the above as:

M—*a* has *H*.

N—Oh ! Then *a* has *S*.

M—Why ?

N—I have never seen something having *H* but not having *S*.

M—But, have you seen something having *H* along with *S* ?

I shall explain that here M is simply insisting, as Dignāga did, that all the three characters of the *trairūpya* doctrine are jointly needed to give the sufficient condition for an adequate *hetu*.

To explain the Buddhist view of knowledge, we have to mention two kinds of knowledge or knowing episode. Both are claimed to be cases of cognitive awareness that arise as episodes. There

is no ownership of such episodes (for there is no person *distinct* from the 'aggregate' of such episodes and much else besides) but each such episode is a discrete member of some awareness-series or other. Hence, we can say that each awareness-episode belongs to a particular awareness-series (an awareness-series is only a continuous sequence of distinct awareness-episodes which are connected *causally* in some relevant sense—the relevant sense being such that the latter is *dependent* upon the former for its 'origination'). Hence, only in a figurative language could we say that an awareness arises in a 'person', or that a 'person' owns the awareness.

In order to be a knowledge-episode, a cognitive awareness must be certain. This element of certainty is shared by both kinds of knowledge that we shall be talking about. But there are two ways of ensuring this certainty, the *direct* way and the *indirect* way. "Ensuring certainty" implies removing doubt, i.e., all possibilities of error. It is agreed that error creeps in as we let our mind, our fancy (imagination = *vikalpa*) take over. Hence, the *direct* way to ensure certainty is to prevent the play of fancy before it sets in. Prevention is much better than cure. This is possible only when the pure sensory awareness presents the datum (we call it the 'percept') untainted by any imaginative construction (or any play of fancy). This is, therefore, the first kind of knowledge, according to Dignāga : sensation or sense-perception. Each such sense-perception perceives also itself. Therefore, each perceptual event, according to Dignāga, has the following structure : [percept—perception (percept)—(self-) perception]. Each percept is a unique particular. Perception is knowledge because the unique particular shines here in its own glory, uncoloured by any play of fancy, any operation of the mind. This is the much-coveted epistemologist's foundation. For Dignāga, it is not simply a foundation; more importantly, it is knowledge *par excellence*.

There is an *indirect* way of ensuring certainty, according to Dignāga. This is not a preventive measure as before, but a curative measure. The play of fancy is allowed to set in, but possibilities of error are gradually removed. A doubt is transformed into a certainty, for, the grounds for doubt are all removed or destroyed. This can happen either through the employment of an inferential mark called the 'indicator' reason

(*liṅga*), or through a proper linguistic expression, a word (*śabda*). In both cases we deal with a general notion of *sign*. It is through the route of a sign that we are led to the object, finally the particular. Since we are not directly confronted with the object, we cannot take the direct route. We cannot prevent the operation of the mind before it sets in. We, in fact, let our fancy play, and then use it to reach the required certainty.

How does a sign lead to the knowledge of the object ? It would be highly uninteresting if we say that there will be a particular sign for each particular object, so that seeing the sign, we would know that the object is there. Seeing my friend's car parked outside, I know that my friend is in. But it is more interesting and non-trivial when we can talk about a general sign for a number of particular objects. In the previous case, we have to see not only the sign, but also, at least once, both the sign and the object together in order to learn that it is the sign of that object. In the latter case, we connect a general sign with a general concept under which several particular objects fall. In fact, the general aspect of the sign is connected with the general aspect of the objects concerned. Seeing, or obtaining, a particular sign, we consider its general aspect and from the general aspect of the sign we are led to the general aspect of the object. Our mind, our 'imaginative' (constructive) faculty, will take us that far. But if the connection between the general aspects is the *right* one in the manner (to be described below) the general aspect will remove all rival possibilities or opportunities for all errors, to lead us to the certainty that there is a particular object there, an object that falls under that general concept.

What is a sign? Dignāga said that any object can be the sign for a second object, provided (1) it has been observed to be with the second object at least once, and (2) no example of the 'contrary possibility' has been observed or cited. A contrary possibility would be a case where an instance of the sign is present but not the object signified by it. The first condition could be called suggestion of the possibility, while the second, exclusion of the contrary possibility. Our knowledge of the sign will lead to knowledge of the object, provided certainty is reached through this dual procedure: the possibility is

suggested begetting an uncertain awareness and contrary possibilities are excluded yielding certainty.

Dignāga used the above theory of sign and object to show how, apart from sensory perception, inference and linguistic utterance yield knowledge in the *indirect* way. A body of smoke is observed with a body of fire suggesting the possibility of one being the sign for the other. This means that sighting of a fire or a body of smoke may lead to a doubt : perhaps, there is also smoke (or fire, as the case may be) there. In such cases, the two conditions of the triple-conditioned *hetu* or the inferential mark (*trairūpya*) are fulfilled, according to Dignāga, and hence, only a dubious awareness can be generated as a result. For certainty, we need the third condition called *vipakṣa-vyāvṛtti* or, in our language, 'exclusion of other possibilities'. This needs awareness about the absence of any example ('counter-example')—a case *where* the sign is present but the object is not. Now, this also determines which one of the two, fire or smoke, in the previous example, could be the sign or the inferential mark or indicator, and which one would be the object, the inferable object. Examples of fire without smoke are easily available, but none of smoke without fire. Hence, our sighting of a body of smoke suggesting the possibility of fire makes it certain by excluding any contrary possibility, viz., that of there being smoke somewhere even when no fire is there.

The above way of putting matters, as far as inference is concerned, would raise problems for logicians; but with Dignāga, the epistemologist, this would be unproblematic. For the logicians, inference of fire from smoke would arise from the relation that we have pinpointed as 'exclusion of the contrary possibilities' (or 'absence of a counter-example'). But, the above way of putting matters would be psychologizing logic. For logic, it does not really matter how a person argues or arrives at other inferential conclusion (by first noticing the suggestion of the possibility and thereby entertaining a doubt and then arriving at a certainty). It would be enough to say that A is a logical sign of B, provided A is such that no case of A is a case of non-B, or, what comes to the same thing, that every A is B. The only assumption needed here would be that there are A's and B's. In this way, it will be argued, logic can be freed from the fault of the psychologism.

While I fully approve of the way logic is to be done, or is being done today without reference to psychological or epistemological implication, I would like to maintain that the above way of psychologizing logic is not a totally censured procedure. For, we are not interested here in the particular way a person infers or derives his conclusions, but rather in the general 'impersonal' conditions or factors that give rise to knowledge-episodes and other awareness-episodes. Besides, each knowledge-episode is identified by virtue of what is 'contained' in it or 'grasped' by it, and not by virtue of its ownership. And what is contained in such knowledge is derived from what is expressed or expressible by a corresponding utterance or linguistic expression. Logic which seems to avoid psychologism deals, nevertheless, with sentences, utterances, statements or propositions. To be sure, utterances are no better than episodes (similar to our knowledge-episodes), and propositions are no worse than abstract entities.

Conceding in this way the charge of psychologizing logic (psychologism is not always a crime), we may return to Dignāga, the epistemologist. One of the traditional problems, that survived for long in the history of Indian logic, one that has at the same time been a puzzle for modern researchers in Indian logic, is the following : Of the so-called triple character of the *hetu*, the indicator-reason—1. the indicator-reason is to be present in the case (or all the cases) under consideration, 2. it is to be present in a case where the object to be inferred is present, and 3. it is to be absent from the cases wherever the object to be inferred is absent—it seems that not all the three are jointly necessary. Even if 2 is not interpreted as 'it is to be present in all cases where the object to be inferred is present', it seems clear that 1 and 3 together would be sufficient to make the indicator-reason adequate to generate a sound inference. This apparently falsifies Dignāga's insistence upon the necessity of 2 along with 1 and 3 as constituting the required sufficient condition of the indicator-reason.

I have already said that part of our problem arises as soon as we switch from epistemology to logic. In epistemology, our problem is to find how certainty is to be attached to an awareness-episode, when the said *direct* route to certainty, disallowing the mind or the play of fancy to operate, is not available. It is to be observed that an awareness-episode may

very well be true or fact-corresponding, even when it lacks the required psychological certainty. For, it lacks certainty when and only when proper evidence or argument cannot be given. But this does not affect the fact of its being true. The epistemological enterprise is to supply the required evidence or argument, so that we may not attach psychological certainty to a false awareness. (Because very often we feel sure even of our false awareness.) Thus, if the proper evidence or argument can be adduced, we can eliminate *false* psychological certainty, and arrive at what we may now call logical certainty. Psychological certainty is simply subjective, while logical certainty is supported by an evidence or reason.

In inference, an awareness of *A* (the indicator-reason) with regard to a particular case or a set of particular cases (called *pakṣa*) leads to an awareness of *B* (the inferable object property). First, we have to grant that the awareness of *A* with regard to the particular place or places must be certain, if it has to yield certainty in our awareness of *B* with regard to the same place. The situation is that : certainty of *A* with regard to the particular place coupled with some additional information will yield certainty of *B* occurring in the same place (*pakṣa*). This additional information comes from our previous knowledge. An assumption is made, namely, if a rule or pattern emerges from previous knowledge we may hold it true also for the case under consideration. Therefore, if previous knowledge yields that contrary possibilities (possibilities of there being *A* without there being *B*) are absent, we may hold the same to be true in the case or cases under consideration. In this way, the indicator-reason *A* will fulfil the third and the first condition of a proper *sign* and thus we may reach the required certainty. But Dignāga insisted that something more is needed as the additional information from previous knowledge in order to lead us to the required certainty : condition 2. In other words, exclusion of contrary possibilities is not enough, information about an actual case of co-occurrence of *A* and *B* in a place is to be supplied from previous knowledge in order to ensure the required certainty. Why? Is it not enough to know that there cannot be absence of *B* in the present place, i.e., the case under consideration, for there is *A* ? What, in other words, did

Dignāga have in mind when he insisted upon the second condition as being necessary?

A tentative answer is the following. We find it easier to collect from previous knowledge some information about a co occurrence of *A* with *B* than that about the exclusion of the contrary possibilities. Hence, we can imagine that the citation of a case of co-occurrence would bring us nearer to certainty. That is, a doubt whether there is *B* or not would be brought within the range of possibility. Next, the exclusion of contrary possibilities would assign the required certainty. This answer seems plausible if we regard Dignāga as being concerned here only with the psychology of inference, and not with logic. But I would now argue that this answer is wrong, for Dignāga cited definite examples where such gradual steps, viz., doubt—possibility—certainty, have not been marked separately. This leads us to the consideration of those particular examples where contrary possibilities are eliminated but it is not possible to obtain examples of co-occurrence from previous knowledge, for, *A* is such that it could be and is present only in the given places, i.e., the cases under consideration. In other words, *A* is a unique mark or character of the *pakṣa*, the case (or cases) under consideration : For example,

P1. Sound has impermanence, for it has sound-hood (or audibility).

It does not seem counter-intuitive to say that sound-hood or being sound (a noise) cannot be the logical mark or basis for inferring impermanence. If, however, we reformulate the argument as given below, as is the practice with most modern writers of the History of Indian logic, it seems logically impeccable.

P2. Whatever is a sound or is audible is impermanent. This is audible (a sound). *Ergo*, this is impermanent.

I submit that P2 cannot be a proper reformulation of P1. For P1 does not want to show, as P2 wrongly assumes, that a particular case is a case of sound (an audible object) and, therefore, it is impermanent. Rather it tries to show that all cases of sound are impermanent, for, they are simply the cases of sound. I shall, therefore, dismiss P2 as a reformulation of P1, and consider

only P1 instead. It should also be noted, in the light of my previous comments, that the proposition 'Sound is impermanent' may very well be true or the awareness that sound is impermanent may be fact-corresponding, but Dignāga's claim here is simply that it lacks the required logical certainty (in the sense defined earlier).

We can now face the question of justifying this claim. If the contrary possibility of something being a sound and not impermanent has been excluded by the information available from previous knowledge, (i.e., by the available information), why can't we decide that sound (all cases of sound) is impermanent ? Here we reach the crux of the matter. We have to remember that all cases of sound are not (at least, in principle) part of the available information. They lie outside the domain which is constituted by available information. We are only certain of one more thing : sounds are sounds, or have sound-hood, (or have audibility). This is an *a priori* certainty. But this does not guarantee that cases (instances) of sound are the kind of things of which impermanence or permanence is predicable. It could be that sounds are neither. Such a guarantee is available only if we could cite a case, independently of the present situation, where both the indicator-reason and the inferable object exist together, and show that the present case is similar to such a case. This is, therefore, part of the justification for Dignāga for not being totally satisfied with the exclusion of contrary possibilities (*vipakṣāsattva*), and thereby insisting upon the citation of a similar case or a case in point (*sapakṣasattva* = *sādharmyadṛṣṭānta*). P1 is, accordingly, declared as inconclusive or uncertain. Hence, it is not a deductively valid argument—and as P2 is). It is being declared as uncertain, because it is quite a different sort of argument whose certainty is not determinable.

The above discussion raises many fundamental philosophical and logical issues—issues connected with the meaning of negation, logical negation and contraposition, contradictories and contraries, possibility and certainty. While I do not wish to enter into such issues in the present context, I would claim that all these issues are relevant here. Briefly, I would note a couple of points. First, the above justification assumes that lack of togetherness of *A* with non-*B* does not necessarily imply togetherness of *A*

with *B*. As Richard Hayes[1] has rightly stated, while 'Every *A* is *B*' may presuppose (as it does in the interpretation of the Aristotlian syllogistic) that there are *A*'s, 'No *A* is non-*B*' may not, under this theory, presuppose that there is at least one *A* which is *B* also. For, as I have already argued, all *A*'s may be such things with regard to which the question of their being either *B* or non-*B* does not arise. Hence, 'an *A* is neither *B* nor non-*B*' is a further possibility that is not eliminated by the exclusion of the contrary possibilities. And since such a further possibility is not eliminated, the required certainty that the case under consideration is *B* is not reached. Citation of a 'positive' example with *A* and *B* together eliminates the said third possibility, and thereby leads us to the required certainty.

From what has been stated so far, it follows that 'not non-*B*' is not always equivalent to '*B*', for, sometimes it could mean something with regard to which the question of being either *B* or non-*B* does not arise. Further, *B* and non-*B* are not contradictories, in this way of looking at things, since they can only be contraries in the sense that they both may fail to apply to some cases (which are neither *B* nor non-*B*).

[1]Richard Hayes : "An Interpretation of *Anyāpoha* in Dignāga's general Theory of Inference," ***Buddhist Logic and Epistemology***, ed. B. K. Matilal and R. D. Evans, 1986, Reidel.

CHAPTER TWO

PROBLEMS OF PHILOSOPHICAL LOGIC IN NAVYA-NYĀYA

§ 2.1: Empty Terms

Too often Indian philosophy has been described as primarily metaphysical or theological in character and hence opposed to rational discussion. Navya-Nyāya, as well as the tradition from which it stems, is a clear proof that there has existed in India for a considerable period of time a rigorous system of thought less concerned with "the eternal verities" than with human knowledge open to verification and rational procedures. This system well deserves a prominent place in any history of Indian philosophy.

Researches in Navya-Nyāya usually take either of two forms. The first form, mainly historical and philological, is represented by the recent works of Erich Frauwallner of Vienna and his students.[1] The second form is usually characterized by systematic translations of certain texts and critical analysis of some theories and techniques. The work of Daniel H. H. Ingalls exemplifies this second kind of approach to Navya-Nyāya, notwithstanding the fact that he added in Section I of his book the results of his

[1]Frauwallner, E. "Prabhākara Upādhyāya," *Wiener Zeitschrift für die Kunde Süd-und Ost-asiens* 1965, p. 198ff.
"Die Lehre von der zusatzlichen Bestimmung in Gaṅgeśas *Tattvacintāmaṇiḥ*," *Vienna Acad.* 266.2, 1970.
"Raghunātha Śiromaṇi" *WZKSO*, 10, 1970, pp. 86-207; 11, pp. 140-208; 14, pp. 161-208.

historical research.[1] The book of Karl Potter[2] and the recently published book of C. Geokoop[3] belong exclusively to the second group. So does a book of Mohanty.[4] Mohanty clearly states in his Preface that his approach to Gaṅgeśa's text has been "that of a critical philosopher." He also claims that this is "the best way of dealing with so outstanding a critical philosopher as Gaṅgeśa." Although one might wish to qualify this statement, it must nevertheless, be admitted that anybody who wants to explain and systematically translate an Indian philosophical text in a European language will, knowingly or unknowingly, be using the method of comparative philosophy. In other words, he cannot but compare and contrast the Indian philosophical concepts with those of Western philosophy, whether or not he consciously does so. Thus, I wish to repeat what I have said elsewhere; "comparative philosophy" in this minimum sense should no longer be treated as a derogatory phrase. Rather, when pursued with sufficient care and an informed conviction, this method may lead to some useful results.

In *The Navya-Nyāya Doctrine of Negation* (Harvard, 1968), Part I, I dealt with the basic concepts of Navya-Nyāya as well as with some of its theories. I wish to present here the results of some further research.

I shall first discuss the problem related to the empty terms, i.e., expressions which are meaningful but do not refer to anything real. This problem has gained increasing attention from modern logicians. It would, therefore, be interesting to see how Navya-Naiyāyikas, i.e., the philosophers of the twelfth-thirteenth century India, tackled the problem. The first two sections in this chapter will concentrate on the different aspects of the problem, and these aspects will reappear in some places of the remaining sections.

One of the important arguments offered by the Nyāya-Vaiśeṣika Theism to prove their thesis, e.g., "God is," can be rephrased

[1]Ingalls, D.H.H. *Materials for the Study of Navya-Nyāya Logic*, Cambridge, Mass., 1951.

[2]Potter, K.H. Raghunātha's *Padārthatattvanirūpaṇa*, Cambridge, Mass., 1957.

[3]Geokoop, C. *The Logic of Invariable Concomitance in the Tattvacintāmaṇi*, Dordrecht, 1967.

[4]Mohanty, J.N. *Gaṅgeśa's Theory of Truth*, Santiniketan, 1966.

as follows : God exists, because to deny His existence is but to affirm Him as God. The argument is significant. The general principle from which it derives its strength is this : we cannot negate a non-entity whatsoever, and hence if we negate God significantly, we are bound to accept His 'entitative existence.' To put it in the technical language of the Naiyāyika, in all negations that we can speak of, the negatum (*pratiyogin*) cannot be a nonentity (*alīka*). The principle contains the seed of an interesting problem of ontology which has also been reflected in the old Platonic riddle of non-being.

The above argument, innocent as it looks, unlocks the door to some great controversies leading to grave consequences. Let us, for the present purpose, remove "God" from the subject position of the above statement, (as we may be reluctant to offend the theist) and replace it with some such words like the hare's horn, the winged horse, etc. Regarding the non-existence of these entities both the theist and the atheist are unanimous.

The principle that negation, if it is not to be nonsensical, (and it must not be nonsensical) must have as its negatum an entity and not a fiction, will logically demand the 'entitative existence of the hare's horn' or 'the winged horse' also. For, otherwise it would be nonsensical to say 'there is no hare's horn' and the like. The problem becomes all the more entangled as we further replace the subject by some such terms like 'the round-square'.

How the Nyāya-realist would seek to solve these difficulties and avoid the contradictions involved, we shall see presently. Let us, at the outset, try to understand the main problem clearly from different points of view.

Some philosophers, being hard pressed by the above contradictions, may concede to a peculiar but precarious position. They are, however, prepared to acknowledge some form of existence, i.e., subsistence of these entities, namely, the hare's horn, the winged horse, etc. Entities like the hare's horn are, they will say, unactualized possibles. When we negate them, we do nothing more than deny their actuality, and 'actuality', according to them, is but a predicable attribute like redness or roundness and may be equated to what we call 'existence.' Thus negation or rather the denial of existence to hare's horn, etc., is as meaningful as they are, i.e., entities belonging to the "world of possibles."

But if these philosophers are pressed with such questions,

e.g., "What does your possibility consist in?" no direct and clearcut answer perhaps will be forthcoming. If, again, instead of the rabbit's horn, etc., such things as 'the round square,' are chosen as examples, would they then, on the same argument, be thrust into that world of possibles? Or, should another weird universe of impossibles be conceived to include these things, so as not to destroy the usual sense of the word "possible"? The extremists, however, would like to assign 'subsistence' to such self-contradictory things as the round-square, and would not object to such over-population of their weird universes of the possible—'possible', of course, to be understood in a special sense of their own.

The opponents to the above view, however, will come forward with a much sharper weapon in their hand to chop out the *weird entities* like the winged horse, the rabbit's horn, the round square, and a thousand others which are likewise advocated by force of the above argument, i.e., in order to make the negation of them or statements about them meaningful. This weapon is traditionally named the "Ockam's razor" : entities should not be multiplied beyond necessity. If we can reasonably explain and maintain thereby the meaningfulness of the statements like "There is no hare's horn," "The author of Waverly was a poet," and "the round square table is pink," we need not postulate such a world of strange entities as has been claimed above. Moreover, such postulates also go against "that feeling for reality which ought to be preserved even in the most abstract studies," (Russell). We shall, therefore, see how the above statements can be meaningfully analysed and explained with the least oddness about them.

The well-known theory of Description, which is due to Russell has been fruitfully utilized to show how we can meaningfully use the 'seeming names' without supposing that there may be entities allegedly named. Thus, the statement "The author of Waverly was a poet" is, according to this theory, paraphrased as "something wrote Waverly and was a poet, and nothing else wrote Waverly." Following this principle, it becomes easy to meaningfully negate fictitious things like Pegasus, the present king of France, the round square table. What seemed to be 'names' purporting to apply to the one and only one object now, on Russellean analysis, turn out to be descriptive

phrases of the form the 'so-and-so'—i.e., the thing that Pegasizes, the thing that is round and square and also a table, etc. Moreover, the grammatical subject of our previous statement, is not the logical subject in Russellean translation where the subject position is occupied by what is known as a 'bound variable,' 'variable of quantification,' e.g., words like "something," "nothing," "everything." Thus, it is evident that in affirming or denying any predicate including existence of these fictitious things, we need no longer presuppose, to maintain the meaningfulness of our statements, any such queer entities. The burden of objective reference is thrown upon the shoulder of bound variables like "something" etc. They do not purport to be names at all, but refer to entities generally.

Russell's theory of Description or better, the theory of singular description, directly applies to the singular terms, and also, with a little ingenuity, to such proper names as Pegasus, Cerberus, etc. Quine, however, has taken the further step to eliminate 'names' altogether from logical sentences, and push them into the domain of description taking recourse to trivial analysis of such "names". Following the principle of analysis contained in the above argument, statements about the non-existence of so-called self-contradictory terms can also be translated into the logical language containing variables, so as to eliminate the alleged contradiction. "Round square does not exist, for example, may be paraphrased as "each thing that is round, is not square". "The hare's horn does not exist" may be written as "each thing that is a horn does not belong to a hare". This method bears a striking similarity with the Naiyāyika's interpretation of the negation of the so-called self-contradictory terms. This will concern us in the remaining paragraphs.

The problem before the Indian logicians is not simply to reasonably interpret the above sentences, but also to give a satisfactory analysis of the cognitions (*pratyaya*) which take notice of the non-existence or absence of such self-contradictory objects. Some logicians, (e.g., the Buddhists), however, advocate that the *asat* or fictitious objects do appear in certain modes of cognition, and thus, they tackle the above problem in a different manner. The Naiyāyika, on the other hand, would never accept such a position. He rather holds that even erroneous cognitions do not reveal any object which is totally fictitious, but are contained

in the wrong attributions of the adjectives, or qualifier. Moreover, according to him, both the negatum (*pratiyogin*) and the locus of negation (*adhikaraṇa*) are, as we have already noted at the outset, real objects. This principle has been explicitly stated in Udayana's *Nyāyakusumāñjali,* Chap. III, verse 2. Thus, ordinarily one cannot significantly negate such things as "the hare's horn" or "the round square."

How then, should we reject the claim of such terms to entitative existence ? The *prima facie* answer to such question may easily be put thus : Because they are nowhere found as such. But the Naiyāyika cannot demolish the world of such strange entities simply on the ground that they are not felt or cognized, or perceived anywhere. Because, he himself accepts many imperceptible entities like atoms, etc. Even his theistic position would be at stake under such circumstances. Hence, the opponent may drive him to the acceptance of the theory that non-existence of an object is established jointly on two grounds, e.g., (*i*) non-perception of it, and (*ii*) its being amenable to perception (which is technically known as *Yogyatā*). *Yogyatā* has been defined as the collocation of all the required causal conditions leading to the **perception** or cognition of an object *minus* the object itself in question, along with any other thing concomitant with it. The Naiyāyika, however, cannot accept the view that things like the hare's horn, winged horse are *yogya* i.e., *possible* or amenable to perception or cognition. Some, however, may suggest that we may mistake, in insufficient light, the long ears of a hare standing erect for its horns and we may visit in our dreamland a winged horse, and on such evidence hare's horn may be held as *yogya*, i.e., amenable to perception. Thus, they will take the easy way out, that of rejecting the "entity-hood" of these objects on the ground that they are not perceived, though amenable to perception i.e., *yogya*. But the Naiyāyika will reject the suggestion outright, since it is self-destructive in purpose, and also lends support, by implication, to the opponent's view that errors reveal fictitious objects. If these objects are held as *yogya* i.e., perceptible even in error as stated above, then, no argument can be given to show them to be fictitious or non-existent, according to the Naiyāyika. Moreover, the supposed argument that they do not exist because they cannot be seen will also fall flat. If it is said, on the other

hand, that they are not actually perceived in any case, then we are bound to give up the idea that they are *yogya.*

Thus the Naiyāyika chooses to hold such terms e.g., the 'hare's horn' etc., as impossible objects just in the sense we take 'the round square', 'circular triangle' to be impossible. Just as a round thing cannot by definition be square, a hare also by definition, cannot grow horn, and a horse cannot be winged. (See also § 5.5, the last section.) If, however, the long, erect ears of the hare are mistaken as horns under any condition of error, then, of course, the erring person, who knows also what 'hare' *means* will never identify the seen animal with a hare. If an animal resembling a hare in every respect is found to grow horns in addition, then it will make a new species of animal, and not a hare. Thus, in the Naiyāyika's view both the objects, hare's horn and round square, sail in the same boat.

Suppose, the Naiyāyika is asked to explain the statement "There is no hare's horn". First, he would say that here the subject of negation, i.e., the negatum, is not at all the hare's horn. What is negated here is simply the horn, and the locus of such negation is a hare. Or, from the other viewpoint, the occurrence in a hare i.e., *śaśavṛttitva*) is being negated and the locus of such negation is a horn. In plain language, the said sentence is to be read in this view as "horns do not occur in a hare". Thus, "There is no round-square" is to be read as "the round thing is not square".

Another way of meeting the problem has been suggested by an indigenous theorist who is generally known as Sondaḍa or Soṇdala. He tries to show that the negation of a self-contradictory term as an entity is actually felt to occur in any loci. When an entity, say a pot, is negated, potness resident in a pot is ordinarily held to be the limiting property (*avacchedaka*) of the abstract property, absenteehood or negatumhood (*pratiyogitā*) tagged to the negatum-entity pot. This is shortly spoken as the negation of a pot limited or qualified by potness. Sondala holds that an object limited or qualified by a property actually non-resident in it may also be negated, and such negation will occur everywhere, because nowhere can we realize such a self-contradictory object—an object, (say a pot or a horn) qualified by a non-resident property (say, *cotness* or occurrence-in-hare). Thus, Sondala recognizes such statements like 'the hare's horn is absent in a cow', 'the pot qualified by cotness is absent in the

hill', 'the cupola in Berkeley College is not round square' as valid and meaningful. According to Sondala negation of one entity as-qualified-by-a-non-resident-property is real and universally present (*kevalānvayin*) (see Section § 2.4). So, negation of a horn as limited by a property e.g., relatedness to-a-hare may be experienced in any locus like a cow or a horse, just as pot-limited-by-cotness is known to be absent in a hill or in any other locus.

Gaṅgeśa rejects the view of Sondala on the ground that a property that is non-resident in the negated entity, the absentee, cannot delimit the absenteehood tagged to it. To explain : our cognition of a negation of any entity is by necessity a *viśiṣṭa-vaiśiṣṭyāvagāhi* type of cognition i.e., a cognition where a qualified entity is also cognized to qualify another. Such a type of cognition is said to be necessarily conditioned by a prior cognition with the first adjective, i.e., the adjective of the main adjective in the resulting cognition, as the chief qualifier or *prakāra*. Thus, the cognition of the negation or absence of a pot while revealing the pot-qualified-by-a-property potness as the absentee or *pratiyogin* reveals also the property potness as the limitor or *avacchedaka* of the abstract, absenteehood. Besides this, a property cannot be revealed independently or in any other way as the limitor of the said abstract. It would be a strained distortion of the fact if we claim that the cognition of the negation or absence of a pot may also reveal as the absentee the pot qualified by a non-resident property cotness. But if for any perverse reason it is claimed, in error at least, that such strangely qualified entities are revealed as the absentee and that we do experience an absence of the hare's horn in cow, then Gaṅgeśa will turn his back, and we may allow Sondala to hold that the absence of such objects is resident everywhere. (See below § 2.4).

The Naiyāyika, however, is constrained to admit such negation where the absenteehood is de-limited or, conditioned by a 'non-compatible' relation (*vyadhikaraṇa-sambandhāvacchinna-pratiyogitākāvābha*) as "real". Just as a pot that is conjoined to (*saṃyukta*) the ground, does not inhere there, (and so we can say that the ground is the locus of the absence of pot through the relation of inherence), so also seeing that though colour inheres in substances, it occurs nowhere through the relation of conjunction or *saṃyoga* (which may be called, accordingly, a relation 'non-compatible' with colour), we can also submit that the

negation or absence of colour through conjunction is real and it is universally present (*kevalānvayin*). But this opens a different issue altogether which I shall discuss later. To sum up our speculations about the Naiyāyika's interpretation of empty terms, we may submit the following : First, that they *as such* refer to any possible entity is unanimously rejected. Secondly, so far as negations of such terms (e.g., self-contradictory compounds) are concerned, Sondala claims that in such negations, one component of the said compound is held as negatum, while the other component is revealed as the limitor of the negatumhood-tagged-to-the negatum. But Gaṅgeśa explains that here one of the components holds actually the position of negatum, while the other occupies the position of the locus of negation in question. Thus, from what has been said it is evident that in the analysis of such terms, the Naiyāyika largely anticipates, in his own way of course, what a Russellean would try to show with the help of the theory of Description. This is, however, a very general statement which must be qualified when further 'in-depth' study of both the traditions is undertaken. I move to the next section to examine the long-standing Nyāya-Buddhist controversy over the acceptability of empty terms in a discourse and trace its historical origin in the tradition.

§ 2.2 : Reference and Existence :

Non-Referring Expressions in Language

Kumārila once made a very significant remark : Word or speech can generate cognition even of entities which are totally non-existent.[1] The fact that there are 'meaningful' and grammatically acceptable expressions in language which *purport* to refer to or to denote some entity or entities but which actually do not refer to anything in our world of experience, has very often proved a puzzle for philosophers and logicians. It is somewhat paradoxical to say that we refer to non-existent entities by such expressions as "the rabbit's horn", "the sky-flower" or "the son of a barren woman". All that we have here is a class of 'meaningful' expressions which

[1]Kumārila, see section of *Codanā-sūtra*, verse 6.

share the same substantival structure in common and possess the grammatical property of a proper name in the sense that they can be successfully used in a context where a proper name might have been used. These expressions have been called 'vacuous' or 'empty' terms. A problem arises when such a term occupies the subject position in a sentence; a problem that is both logical and epistemological.

The understanding of a substantival expression or phrase does not imply that it has a reference; in other words, understanding of its meaning precedes the knowledge of whether or not the expression actually refer to any real entity. That is why, we are justified in calling such expressions 'meaningful', although they fail to refer to anything.

An unusual strain of realism pervades our ordinary language in such a way that whenever we try to refer to or express an imaginary or fictitious object we feel constrained to admit some kind of 'relative' reality for these fictions. We may not be happy about this situation. One should point out that we would otherwise face a logical problem. To put it simply, it would be difficult, for example, to negate (logically) a statement whose subject is a fictitious object. The actual formulation of the antinomies of a two-valued logic will mainly concern us here. The awareness of these antinomies can be clearly discovered, as we shall see, in the writings of the Naiyāyikas and the Buddhist logicians of the tenth-eleventh centuries.

An initial note on the source material used in my discussion is in order. The Nyāya position as expounded here is mainly that of Udayana. The Buddhist position is what Udayana regarded as the view of his Buddhist opponent. The idea of momentariness of all entities apparently belongs to the Sautrāntika school of Buddhism. Unfortunately, no extant philosophical text of the Sautrāntika school where this problem is discussed is available to us. But a good account of the thesis of momentariness has been presented by Dharmakīrti and his followers. Udayana becomes involved in the argument concerning the status of empty terms while he repudiates the logical proofs of the thesis of momentariness. In the first chapter of his *Ātmatattvaviveka* (from which I have largely drawn my material), Udayana is mainly

concerned with the Buddhist views as set forth by Jñāna-śrīmitra in his *Nibandhāvali*.

The Riddle of Non-being

The Nyāya school claims that a sentence whose subject term does not refer to anything stands in need of some philosophic paraphrasing. A sentence is a representation of some cognitive event. A cognitive event, i.e., a judgmental one, usually attributes a property, rather a 'qualifier', to a subject or a qualificand. And this attributable property will be called a qualifier. Now, a cognitive judgment fails if it lacks a subject to which it can attribute some property. Hence, a sentence which apparently has a non-referring expression as its grammatical subject undergoes a philosophical paraphrasing in the Nyāya system so that it can properly represent some judgmental (or qualificative) cognitive event. A judgmental cognitive event may be erroneous where the representing sentence will be regarded as false. If a cognitive judgment is right, the corresponding sentence will be true. Thus, knowledge and error are the epistemic counterparts of the truth and falsity of the sentences that express the corresponding cognitive events. Proceeding along this line, the Nyāya realism almost pre-judged the issue and tried to show that a sentence with a non-referring expression as its subject should be traced back to some kind of erroneous cognitive event and should be explained accordingly. In other words, Nyāya ruled that these sentences were demonstrably false. Bertrand Russell seems to have tried to analyse such sentences in much the same way. It has been shown by him that these sentences can be paraphrased into such logical forms as will make them patently false.[1]

Apart from this apparent similarity, the philosophic motivation of Russell was, perhaps, not very different from that of the Nyāya school. Among other things, Russell was worried about ontology. Thus, he wrote :

> It is argued, e.g., by Meinong, that we can speak about 'the golden mountain', 'the round square', and so on; we can make true propositions of which these are subjects; hence, they must have some kind of logical being, since otherwise the

[1] B. Russell, "On Denoting," *Mind*, 14 (1905), pp. 479-93.

propositions in which they occur would be meaningless. In such theories, it seems to me, there is a failure of that feeling for reality which ought to be preserved even in the most abstract studies.[1]

Whether Meinong did actually postulate such a theory or not can be determined from his doctrine of the independence of what he calls *Sosein* from *Sein*.[2] Roughly speaking, Meinong contended, arguing for a very broad sense of the term 'object,' that the object's having some property or characteristic is not affected by its being existent or non-existent. Thus, although the round square does not exist, because it cannot exist, it is possible to make true assertions about it or to predicate some property of it. In other words, we might truly say, "The round square is round and square." Even at the risk of a paradox, Meinong adds, one can very well say, "There are objects of which it is true to say that there are no such objects". To the criticism that the law of contradiction would be violated if the sentence "The round square is round and square" is held to be true, Meinong replied by saying that the law of contradiction holds only in the case of what exists, or is real, and is thus not violated by the sentence in question.

Even if we leave Meinong aside, we can conceive, following Quine[3], of some fictitious philosopher like McX or Wyman, who would be willing to countenance at least subsistence, if not existence, to such entities as "the golden mountain". In other words, these philosophers would posit a world of 'unactualized possibles', but would resort to the doctrine of meaninglessness when faced with such self-contradictory expressions as 'the round square' or 'the son of a barren woman.'

Part of the difficulty connected with sentences with non-referring expressions as their subject terms can be transformed into a logical riddle. This riddle has a long history in the West and it is usually nick-named *Plato's beard*. In India the story is more or less the same. The riddle of 'non-being' in some form or other stayed alive in the controversies between the Buddhists and the Nyāya philosophers down the centuries.

[1]B. Russell, *Introduction to Mathematical Philosophy*, London (1919), p. 169.
[2]A. Meinong, pp. 76-117, "Theory of Objects" in R. Chisholm's *Realism and the Background of Phenomenology* (1961).
[3]W. V. Quine, *From a Logical Point of View*, Cambridge, Mass (1961), Essay 1.

The Status of Example in Indian Logic

I shall now explain the Indian version of the riddle of non-being, following Udayana.[1] Some acquaintance with the development of Indian logic during the time of Jñānaśrīmitra and Udayana is necessary for understanding the Indian version. The Buddhist believes that the demonstration of the proof of his thesis (viz., everything that exists is momentary) is possible. Thus, he tries to formulate a philosophic argument in the standard "logical" form which is mainly non-deductive. Unfortunately, modern interpreters have sometimes tried to reduce the argument into a deductive inference. (See our comments in previous § 1·5.)

A few remarks about the nature of Indian logic may be in order here. Logic developed in India out of two slightly distinct traditions : (1) *vāda* tradition, i.e., tradition of debate which was concerned with dialectical tricks, eristic arguments and sophistry, (2) *pramāṇa* tradition, which was concerned with the criteria of empirical knowledge, the accredited source of knowledge. On account of this genesis, Indian logic imbibed an epistemological character which was never abandoned throughout the successive periods of history.

The model of reasoning with which the Indian logicians were chiefly concerned was not *purely* deductive. Modern interpreters of Indian logic have seldom realized this point (for such oversight, see Randle, 1930). As a result, there have been some confusing and futile attempts to reduce the arguments studied by the Indian logicians to Aristotelian syllogistic model (See § 1.5). It should be noted that inspite of the neatness, elegance and precision of a deductive system like that of Aristotle, it is undeniable that a good deal of our actual reasonings may not follow the deductive pattern. The reasoning of an experimental scientist, a historian or an ordinary man trying to ascertain the truth of a particular matter, is a reasoning from what we may call 'evidence' to what we can call 'conclusion'. Even most of our philosophical arguments, where we try to depend more or less upon empirical evidence, belong to this type of inference. A purely deductive model is not always appropriate to this kind of reasoning.

[1]Udayana, *Ātmatattvaviveka*, pp. 59-89.

In a deductive reasoning, the so-called premises *entail* (in some acceptable sense of this term) the conclusion in such a way that if we accept the premise we cannot afford to avoid the conclusion without the risk of contradicting ourselves. In a non-deductive argument, the conclusion is not *entailed* in the same sense by the premises. We should better say that our evidence or 'premises' here justify or support the conclusion. Evidence may be good or bad, and the corresponding argument may be sound or unsound. A good evidence strengthens the thesis and makes it acceptable to us. But a bad evidence either weaken the thesis (renders it doubtful) or falsifies it. Thus, it seems to be better to talk in terms of soundness and unsoundness of this type of arguments (instead of talking in terms of their validity or invalidity).

The general form of the arguments studied by the Indian logicians is ; *A* is *B* because of *C*. The middle term or the 'reason' *hetu* *C* can be either adequate or inadequate (instead of being strictly valid or invalid). An adequate middle term or 'reason' will establish the conclusion and the argument will be sound. If the middle term is not adequate, the conclusion will not be established and the argument will be unsound. Ordinary conversation and philosophical treatises provide millions of examples of this kind of argument.

In a non-deductive inference, e.g., "It must have rained *because* the ground is wet", the second part is believed to be the *adequate* ground for accepting the first. Indian logicians tried to frame the rules of logic from the paradigm cases of sound inference of this kind. But the neatness of a deductive system can easily capture our mind. We may thus be tempted to introduce an additional premise so that these arguments will be deductively valid. We can resort to the theory of 'suppressed premises' and decide that we are dealing in fact with deductive arguments in all these cases. But this seems at best to be a distortion, and at worst the demolition of the original structure of the actual argument. That we are inclined to reduce these arguments to deductive arguments proves that we are somehow assured of the *soundness* of these arguments much in the same way as we feel secure about a deductively valid conclusion. But this reduction, even if it is sometimes justified, throws very little light upon the original

problem, e.g., how can we reasonably draw, as we obviously do, conclusions from the so-called premises which do not strictly entail them? We merely direct our attention to a slightly different and a bit narrower question : How do we establish general propositions such as these 'suppressed' premises? Most of these premises are not admittedly necessary propositions, i.e., analytic judgments. They are in some sense 'synthetic' propositions, representing general beliefs which come from common experience.[1] The early history of Indian logic seems to have been a search for an adequate model which will explain empirical inferences of the kind mentioned above.

That it is often misleading to introduce a 'suppressed' general premise in some cases can be easily shown by applying the same method to a dubious case, i.e., an unsound non-deductive argument : speech sound is permanent because it is audible (5th type in Dignāga's table of 'reasons' see § 1.7, 2.4; cf., *Hetucakraḍamaru*). Should we construe this case as having a general premise "Everything that is audible is permanent", and thus treat the argument as deductively valid with a false conclusion from a false premise ? Or, should we construe our general premise as "Nothing that is audible is permanent", and thus make the argument deductively invalid ? The truth is that in either case we are turning our attention from the actual structure of the argument to our experience and general belief. In fact, we pre-judge the case, finding that the conclusion is definitely false.

The best thing would, of course, be to do neither. The Indian logician says that you cannot state your general premise or the universal proposition unless you can cite a supporting 'example' (*dṛṣṭānta*). A supporting 'example' can be of two types : an 'agreeing example' (*sādharmya-dṛṣṭānta*) and a 'disagreeing example' (*vaidharmya-dṛṣṭānta*). An 'agreeing' example is a case where both the 'reason' and the 'inferable property' (*hetu* and *sādhya*) are present together. This will at least show that neither the 'reason' nor the 'inferable property' can be fictitious. A 'disagreeing' example is a case where both the reason and the inferable property are absent. Suppose, I wish to infer that there is *fire* on that hill which I see. An 'agreeing example' or a homologue in this case will be a kitchen where fire is present along

[1]See also my review of C. Goekoop in *Journal of American Oriental Society*, 1970. For a similar point, see Strawson, *An Introduction to Logical Theory*, London (1952), pp. 234-36.

with my 'reason', i.e., *Smoke*. A 'disagreeing example', or a heterologue, would be any room where neither smoke nor fire is present.

With this prelude we can proceed to the heart of the controversy between the Buddhist and the Nyāya logicians. The thesis of momentariness which the Buddhist wants to prove is a universal proposition :

Whatever exists is momentary.

Its contrapositive version is :

Whatever is non-momentary does not exist.

The 'reason' in this case is 'existence', and the 'inferable property' is 'momentariness'. Now, to prove the invariable connection between the 'reason' and the 'inferable property', the Buddhist logician must cite, in the first place, some 'agreeing' example where the two properties (the 'reason' and the 'inferable property') and their connection are instantiated. But the 'agreeing' example will not be enough unless one can support it by the citation of what is called a 'disagreeing' example. A 'disagreeing example' is something that instantiates the contraposed version of the main thesis. According to the acceptable form of demonstration, the Buddhist, in order to prove his thesis, must cite not only an 'agreeing example' but also a 'disagreeing example' for making his argument sound and more convincing.

Although the proof here consists in the citation of a 'disagreeing example', the conclusion should not be regarded in any way unsound or uncertain. The whole point of citing a 'disagreeing example' is to show the actual absence of any counter-example. If a counter-example can be found where the 'reason' is present but not the inferable property, then the supposed thesis is immediately falsified. Thus, the soundness of the conclusion depends upon this absence of any counter-example, or our failure to discover any counter-example.

Now, a difficulty arises when we try to find a 'disagreeing example' for the above thesis (viz., an instantiation of the contraposed version given above). To cite an example of unreality would be in some sense to contradict one's own position, because it would be like saying that there is an example (or, an entity, if we like) which, according to us, is unreal, i.e., non-existent or a non-example. An 'example', or what is called a *dṛṣṭānta* in

Indian logic, must be a well-established case admitted by both sides in a philosophic debate, the opponent and the proponent. It is implied here that there is admittedly an accredited source or 'means of knowledge' (*pramāṇa*) with which we can establish the example. Thus, an example can never be an unreal entity. This will finally lead, according to Nyāya, to the destruction of the Buddhist claim that he can prove 'logically' the momentariness of everything.

The Nyāya-Buddhist Controversy

It should be made clear at this point that neither the Nyāya nor the Buddhist wishes to countenance the world of strange entities like the golden mountain or the rabbit's horn. But the difference lies in their method of approach to the problem.

Confronted with the Nyāya criticism (noted in the last section), the Buddhist does not so easily give up his hope of proving his thesis of momentariness. He tries to point out that the position of the opponent, i.e., the Nyāya position, also involves a self-contradiction. By saying that an unreal entity cannot be used as an example, or, cannot be used as the subject of a proposition, the Nyāya actually mentions 'an unreal entity' in his speech-act. And this can be shown to imply a proposition whose subject would be an unreal entity or a non-existent fiction. Thus, for example, Nyāya would have to argue: the rabbit's horn is a non-example, because it does not exist. And this will contradict the original Nyāya position that fictitious entity cannot be the subject of a proposition. Thus, the Buddhist claims to have proved his thesis of momentariness even at the risk of an implicit contradiction, because otherwise the rejection or criticism of his argument would lead the opponent into a patent self-contradiction.

Udayana remarks here as follows.[1] The Buddhist wants to avoid a patent self-contradiction (like saying "the rabbit's horn cannot be the subject of any proposition, because it does not exist") and thus allows that certain speech-acts, and consequently certain sentences, about fictitious entities like the rabbit's horn are quite in order. The Buddhist, in fact, does not

[1]Udayana, *Ātmatattvaviveka*, pp. 64-65.

want to accept the Nyāya position that the subject term of a sentence must refer to something actual (or real), and if it does not, the whole sentence stands in need of some philosophic paraphrasing. Thus, for the Buddhist, "The rabbit's horn is sharp" is a normal sentence which we may use in our discourse for various purposes. One of such uses is made when we cite an example of a non-entity, viz.,

"The rabbit's horn is non-momentary and also non-existent."

Nyāya, on the other hand, wants to exclude from logical discourses any sentence which will ascribe some property (positive or negative) to a fictitious entity. Vācaspati remarks that we can neither affirm nor deny anything of the fictitious entity, the rabbit's horn.[1] Thus, Nyāya apparently agrees to settle for a 'superficial' self-contradiction because, in formulating the principle that nothing can be affirmed or denied of a fictitious entity like the rabbit's horn, Nyāya, in fact, violates the same principle. Nyāya feels that this 'superficial' self-contradiction is less objectionable, because it can somehow be explained away, while the Buddhist approach to the problem is deplorable, because it will eventually lead us to reject any discrimination between actual and fictitious entities.

To simplify the matter for discussion, we might talk in terms of exemplified and unexemplified properties (borrowing the terms of Carnap with suitable modifications[2]) instead of talking in terms of referring or non-referring expressions. A referring expression, be it a name or a description, can be said to signify a property (in a broader sense) which is exemplified by the individual it names or the individual that answers the description. In the light of this theory, a referring expression like 'Aristotle' would signify such a property as Aristotlehood (essence of the person called Aristotle ?). A non-referring expression signifies a property, or rather a complex of properties, which is not so exemplified. An unexemplified property (or, property complex) may also be called an *empty* property.

The Buddhist argues that it is possible to talk about fictitious objects or empty properties, because otherwise one cannot even successfully deny their existence. Thus, it is in order when we

[1]Vācaspati, *Nyāya-Vārttika-Tātparyaṭīkā*, K. S. S. 24, Benares (1925), pp. 172-73.
[2]R. Carnap, *Meaning and Necessity*, Chicago, 1956, pp. 20-21.

purport to attribute empty properties to fictitious individuals or when we use a fictitious individual as a 'disagreeing example' or even as the subject of some negative proposition. A putative answer to 'the riddle of non-being' can be given as follows : an utterance like

"The rabbit's horn does not exist"

is perfectly all right because here we only deny the existence or 'actuality' of a fictitious entity. Similarly, the utterance

"The rabbit's horn is not sharp"

is also in order, because here we simply refuse to attribute a property, viz., sharpness, to a fictitious object. One may also add that the correctness or soundness of these utterances can be authenticated by our accredited means of knowledge (*pramāṇa*). We can neither perceive the rabbit's horn, nor test its sharpness by direct perception, nor can we infer its sharpness on any logical grounds (such as, knowing that it cuts hard objects easily).

But if we accept empty subject terms in order to make the denial of existence to fictitious entities successful we shall invite other logical problems. Udayana points out that if the negative sentence

"The rabbit's horn is not sharp"

is held to be true, because it is authenticated by our accredited means of knowledge, then the affirmative sentence

"The rabbit's horn is sharp"

can be argued to be also true on similar grounds. Since the rabbit's horn cannot be known through any means, no one can establish that it is not sharp. As long as it is not established that it is not sharp our claim that it is sharp should also hold.

Udayana notes

If nobody has ever seen or known a person called 'Devadatta' anywhere at any time, then the question "Is Devadatta white, or is he black ?" results simply from some outrageous perversion. And if, without caring to understand what this is all about, someone answers the quesition by saying "he is white" another person has as much right to answer by saying "he is black." Nothing is established by such questions and answers. In each case, the lack of our means

of knowledge (to establish the subject term) and (the consequent possibility of) self-contradiction remain the same.[1]

The point that Nyāya tries to make through this criticism is this. If we allow statements about fictitious entities in a logical discourse—statements by which we purport to attribute some property (positive or negative) to the fictitious entity—we shall have no way of deciding whether they are true or false, for, it will never be possible to experience the fictitious entity through any accredited means of knowledge. But the Buddhist argues that we do utter statements about fictitious entities. We tell fictitious stories, and we can conceive of unreal entities like the rabbit's horn or the hair of a turtle. It is not always the case that we have to *know* a thing before we may make statements about it or attribute some property to it. A simple cognition, an error, a conceptual construction, or even a deliberate attempt at fiction, will be enough to prompt us to talk about fictious entities. Statements about fictitious entities like the rabbit's horn may also serve some useful purpose in a logical discourse.

In fact, the Buddhist proposes a kind of pan-fictional approach to the world of phenomena. Thus, he believes that language creates fictions and the cognitive element behind language can very well be the cognition of a fiction. In other words, an unreal entity can be as much the object of a cognitive episode (i.e., an erroneous cognitive episode) as it can be expressed by some non-referring expression in language.

The Epistemological Significance of the Controversy

Let us consider

A "The rabbit's horn is sharp."

Nyāya says that here the subject term itself can be treated as a complex term, in fact, a 'disguised' sentence, in which we are attributing either the property of having horns to a rabbit, or the property of belonging-to-a-rabbit to the horn. As long as this is a wrong attribution, the whole sentence should be regarded as false, because it can only represent a possible error, i.e., an erroneous cognitive event.

[1]Udayana, *Ātmatattvaviveka*, K.S.S-84, Benares, 1940, p. 69.

The issues involved here are eventually connected with an epistemological problem, i.e., the problem of explaining an erroneous cognition. Nyāya contends that our error consists only in our wrong attribution of a property to a subject. But the property itself or the subject itself must be a *real* entity of this universe. The Buddhist claims that an error does not necessarily consist in the wrong attribution. According to a section of the Buddhists (viz., the proto-Mādhyamika), an error consists in making an unreal thing appear as real. The Nyāya theory is called the *anyathākhyāti* theory of error, while the proto-Mādhyamika view is called the *asatkhyāti* theory of error.

Let us consider the situation of a perceptual error for the purpose of comparison. When someone perceives (erroneously) a snake in a situation where only a rope is present in the visual field and hence is in contact with one's sense organ, we can say that he has an erroneous perception of a rope. In fact we can show him by examining the object further that what he saw was not a snake but actually a rope. But if he is dense enough (or, philosophic enough) to ask "It was not *what* snake?" we shall be in trouble, because it will be difficult to successfully deny the existence of a non-existent or imagined snake. Whether or not he has seen a *real* snake in life before is just beside the point here. The particular snake which he *thought* he perceived a moment ago cannot be the subject of a successful denial, because if that particular snake (or, perhaps, we should say, the snake-particular) is totally non-existent, then the denial of its existence will be pointless, and if it is supposed to have some sort of existence (i.e., 'subsistence') then the denial will be contradictory. One may resort to such an ambiguous position as the following: The particular snake I experienced a moment ago is not on the same level of reality as this piece of rope which I am experiencing now, but, nevertheless, that particular snake-fiction is not entirely unreal, because otherwise I would not have experienced it a moment ago. This will invite a host of philosophic questions about the nature and criteria of reality which we need not go into here. Our purpose will be served if we remember the metaphysical background in which the Nyāya and the Buddhist theories of error were developed.

It will be consistent for the Buddhist to say that the object of an erroneous cognition (or of a dream cognition), viz., 'this

is a snake', is unreal. The following judgment, viz., 'this is not a snake', which destroys the error simply reveals the unreality, i.e., non-existence of the snake. Suppose we accept causal efficiency as our criterion of reality. A *real* entity may be the object (*viṣaya*) of a perceptual cognition by being somehow causally related to the production of that perception. But if something has become the 'object' (*viṣaya*) of a cognitive event, it does not follow that it must have been causally related to the production of that cognitive event. For example, the 'snake' grasped by an erroneous perception of the form 'this is a snake' becomes the 'object' of this cognitive state without apparently being causally related to it. Thus, a cognitive state is an intentional act where a non-existent entity can very well be revealed as the 'object'. This is, in brief, what is implied by the *asatkhyāti* theory of error.[1]

The Nyāya reply to this is somewhat theory-bound. Nyāya realism does not admit that a *totally* fictitious entity can be the 'object' of any cognitive event, even of an error. Nyāya attempts to construct a theory of reality, a conceptual scheme, that consists of some interconnected basic categories (viz., the scheme of Vaiśeṣika categories). Thus, it is asserted that corresponding to each fundamental element of thought or cognition there is a fundamental element of reality. The so-called fiction is always constructed out of real elements. And these real elements can be categorized under some basic principles.

A judgmental cognitive event combines two or more elements of reality, and a sentence expresses such a cognition. An error or erroneous judgment combines two elements of reality which are not actually so combined. To be more precise, an error combines two elements of reality that are not so combined in reality. One might say that the verbal expression of an error purports to refer to a fictitious entity. But Nyāya hastens to add that the fundamental elements that go to constitute the object-content of an error are all real elements or real properties exemplified somewhere in the world. *Even the oddest imagination can be broken into elements each of which is not just 'airy nothing', but 'has a local habitation and a name', i.e., is real.*

[1]Vācaspati, *op. cit.*, pp. 85-86. For the Nyāya theory and the Prābhākara theory of error, see my Review of Mohanty's *Gaṅgeśa's Theory of Truth*, *Philosophy East and West* 18, pp. 327-28. I have discussed the different theories of error in a book on *Perception : An Essay on Classical Indian Theories of Knowledge* : Chap. 6.

Nyāya criticizes the *asatkhyāti* theory of the Buddhist by saying that what becomes the 'object' of a cognitive event is also, in some acceptable sense, causally related to that cognitive event, and that it is absurd to suggest that a fictitious non-entity can cause anything. Thus, in the case of perception, what becomes the 'object' causes, at the same time, the perception itself as an event. Even a perceptual error has an 'objective basis' (*ālambana*) which causes such an error. In the case of wrong inference also, we do not deal with fictions. We are either mistaken about our initial perception which lies at the root of such an inference, or we fail to apply the rules of correct inference. In the case of an erroneous cognitive state derived from someone's utterance, we should analyse its object-content also in a similar fashion.

It may be argued that the expression 'the rabbit's horn' is understood to refer to some non-existent entity, because no such thing as the rabbit's horn is found in this universe. Nyāya meets the objection in this way. Like perception, language is also a source of knowledge. Through words or a word-complex, we know *atomic* objects. This is called conception. And from sentences we know *facts* or object-complexes. This is called verbal judgment. Thus, the situation is comparable to that of a perception where we can have either judgmental perception of facts or 'simple' perception of (atomic) objects. Error arises in the case of judgmental or qualificative perception only (see § 3.1, § 3.2). It is impossible for a non-qualificative 'simple' perception to be wrong about anything unless we allow that the 'simple', unitary (indivisible) object-content of such a perception can sometimes be *totally* fictitious having no 'objective basis' (*ālambana*) in the objective world. But as far as Nyāya is concerned, this possibility is ruled out. A qualificative perception can be described as 'a sees that x is P', and hence there arises the chance of its being erroneous in case the property expressed by 'P' is not actually present in x. Here, x is the *ālambana* 'objective basis'. The property expressed by 'P' may be a *simple* one, or it may be a complex one in which case it should be analysable into *simple* components.

The Implicit Nyāya Principle of Semantics

Nyāya asserts that a simple, non-complex property can never be *empty*. We cannot conceive of a simple, non-complex property

which is not instantiated by anything in this world. Acceptance of this principle is almost axiomatic in Nyāya realism. Thus, a complex property is held to be analysable in this system into 'simple' components which must be individually instantiated somewhere in the actual world. When we say that a particular property is empty, we mean that the combination of a number of simple *real* (i.e., non-empty) properties is not as such exemplified in the actual world (at a given time). One may combine two contradictory or mutually exclusive properties in which case the combination will be expressed by a self-contradictory expression. One may also combine two non-exclusive, but hitherto uncombined or unconnected, properties in which case it will be an empty property expressed by a non-referring expression. "The son of a barren woman" will be an example of the first kind, "the rabbit's horn," "a man who is twenty-feet high," and "the hair of a turtle" are examples of the second kind. (Note that one has to take the time of utterance also into consideration : "the present king of France" was not a non-referring expression when France was a monarchy, nor "the first man in the moon" is so now since the time Neil Armstrong landed on the moon.)

A problem will apparently arise if someone insists that a non-referring expression, such as "the rabbit's horn" or "unicorn", is not the result of a combination, but should be treated as an 'atomic' non-divisible expression, such as unicornhood. In other words, whatever is signified by such an expression could be regarded as a simple, indivisible property. In that case, one can say that we do utter expressions signifying simple, indivisible properties which have no exemplification in the world of experience. Udayana anticipates this objection. He adds that if for any perverse reason one wishes to admit expressions in our language, which signify simple but fictitious (empty) properties, one will have to find a way to distinguish between two different expressions which signify two empty (but presumably different) properties.[1]

To explain : Unless we allow the meaning of "unicorn" to be indistinguishable from the meaning of "goblin" (or, from that of "the round square") we cannot hope to prove that these

[1]Udayana, *Ātmatattvaviveka*, p. 71.

expressions signify 'simple' but different *empty* properties. The meaning of such expression cannot, in the first place, be learnt by ostensive means. We depend upon descriptions to make their meanings understood. Thus it is that the apparently unitary expression finally resolves itself into a series of descriptions which will, in their turn, signify complex properties.

The way Nyāya deals with this problem seems to be close to what Carnap has to say about his artificial language system S_1[1] :

> Generally speaking, it must perhaps be admitted that a designator can primarily express an intension only if it is exemplified. However, once we have some designators which have a primary intension, we can build compound designators out of them which express derivative, complex intensions, no matter whether these compound designators are exemplified or not.

Nyāya believes that there is a class of 'simple' properties (which are exemplified and) which are expressed by a class of 'simple' (non-compound) designators. But compound designators express complex properties which may or may not be exemplified.

Following the Nyāya principle we can resolve

A "A rabbit's horn is sharp"[2]

as follows : "(1) Something is characterized by horn-ness and (2) it is characterized by the property of belonging to a rabbit and (3) it is also characterized by sharpness." Of these constituents, if (1) is true, (2) cannot be true, and vice versa. And (3) can be true or not true according as the subject (whatever that is) is or is not sharp. But, in no case will the conjunction be true. And, we can resolve

B "A rabbit's horn is not sharp"

as follows : "(1) Something is characterized by horn-ness and (2) it is characterized by the property of belonging to a rabbit and (3) it is also characterized by the absence of sharpness."

[1]R. Carnap, *op. cit.*, p. 31.

[2]I am using the indefinite article 'a' instead of the definite 'the' and maintaining the view that such statements will have existential commitment without the uniqueness condition of the definite article. I have chosen this procedure in order to avoid unnecessary complications.

This will be equally *not true* (*a-pramā*) as before, because both (1) and (2) cannot be factually true together. (3) will be true or false according as its supposed contradictory (3) is false or true.

One may note here that Russell has declared that a sentence of type B is ambiguous. He introduces the notion of "primary" and "secondary" occurrences of descriptions to explain this ambiguity.[1]

Russell extended the concept of false statement to include sentences with empty descriptions as their subjects. He was criticized by Strawson on the ground that in ordinary language the existence of something denoted by the subject of a sentence is a necessary condition of its utterance being true or false.[2] Strawson's theory can, in fact, be systematically developed with the assumption of more than two truth-values. One might suggest from this controversy that a multivalued system is even inescapable if logic is drawn closer to ordinary language. Besides, certain paradoxes can, perhaps, be better tackled in a multivalued system.

However, the Buddhist's insistence that we can and do make statements with empty subject terms need not be taken as a plea for accepting a third truth-value 'neither true nor false' ('indeterminate') to be attached to such statements. His argument is more like that of Meinong who wants us to accept the fact that there are *unreal* objects which can be spoken about, can be thought of or desired. We may describe an unreal object like the rabbit's horn as having a property or characteristic, such as non-momentariness (or, even the lack of potentiality to produce something). Thus, a term expressing such an unreal object can very well be used as a 'disagreeing example' or as the subject term of the contraposed version of the universal concomitance between existence and momentariness.

The Buddhist, in fact, would like to put all the objects over which our thoughts and other psychological activities may range at the same level; and this will include not only (a) things which do exist now (i.e., which are assumed to be existent by the common people or by the realist) but also (b) things which do not exist now (i.e., past and future things), (c) things which

[1]B. Russell, *Introduction to Mathematical Philosophy* (1919), p. 179.
[2]P. F. Strawson, "On Referring", *Mind*, 1950.

cannot exist (viz., the rabbit's horn), and also (d) things of which it would be a logical contradiction to say that they exist (viz., the son of a barren woman). One point is common to all of these four groups, and this is that we can think about them and our mental activities can be directed toward all of them. In their theory of objects, the Buddhists were not interested in ontology or in the metaphysics of being. If this opens the door to idealism, it may be welcome to the Buddhist (because that would simply prove the Yogācāra point that objects are integral parts of, in fact, indistinguishable from, consciousness). Even without giving in to idealism the Sautrāntika Buddhist may maintain this theory of objects with due modification while emphasizing that the *real* objects are only momentary point-instants which are beyond the range of ordinary experience. (For further discussion of these issues see Chapter 3 specially § 3.3.) By way of documentation, I give below the translation of an excerpt from Udayana's, *Ātmatattvaviveka*, pp. 56-69. Order of the paragraphs here follows that of the Sanskrit text which is reproduced after the translation.

By such arguments, the negative method of inferring momentariness of an entity from its existence is also rejected.

Besides, there are some other defects in this negative inference. The minor term (the 'subject' *pakṣa*), the middle term (the 'inferential reason' *hetu*) and the example cited in such an inference cannot be established by any means of knowledge. There cannot be any means of knowledge to establish a non-entity (i.e., a fiction, *avastu*). If it could be established by some means of knowledge it ceases to be a non-entity.

(Opponent :) If so, then your talk about the non-entity becomes self-contradictory.

(Proponent :) Does this self-contradiction point out that there is a means of knowledge to establish the non-entity ? Or, (second question) does it reject the prohibitive statement that we should not talk about non-entity ? Or, (third question) does it imply that we must concede such statements (about non-entity) which are unauthenticated, i.e., not established by any means of knowledge ?

The first alternative is not tenable. Even a thousand of self-contradictions cannot conceivably show that (the non-entity like) the stable object (i.e., the minor term) or the absence of gradual efficiency, etc. (i.e., the *hetu*) or the rabbit's horn (i.e., the example cited to support the general premise) is amenable to (a means of knowledge, such as) perception and inference. If it could, what is the use of this silly fight over the nature of non-entities ?

The second alternative is acceptable to us, because we admit only valid means of knowledge.

(Opponent :) If the prohibitive statement is rejected, no statement with regard to non-entities will be possible.

(Proponent :) What else can we do but remain silent in regard to a matter where statement of any kind would be logically incongruent? Silence is better in such cases. (No statement is better than any statement in such matters.) You yourself may please consider as to who is the better of the two: One who is making statements about entities that cannot be established by any means of knowledge? Or, the other person who remains speechless (on such occasions) ?

(Opponent :) But, although you are a wise man, you have not remained silent yourself. You, on the other hand, have made a prohibitive statement with regard to our talk about non-entities !

(Proponent :) True. In order to avoid a self-contradictory object not established by any means of knowledge, you have conceded that one can make statements about the non-existent. Similarly, in order not to allow any statement about the non-entities in our discourse on the means of knowledge, we concede that a self-contradictory statement (prohibiting the use of non-entities) is possible, although it is not supported by any means of knowledge. If you treated both the cases in the same manner, we would not have said anything about non-entities. (We have made the above self-contradictory statement because you first raised the question.)

To the third question we say the following : By whose command, may we ask you, one has to accept (in a philosophical discourse statement about) an object which is not established by any means of knowledge ?

(Opponent :) Because, use of such statement is deeply rooted in our habit (speech-behaviour).

(Proponent :) It will be a self-contradiction to claim that something which cannot be established by any means of knowledge can be deeply rooted in our speech-behaviour. (We speak about objects that appear in our experience and a non-entity cannot appear in our experience and hence, cannot be spoken about.)

(Opponent :) Such entities are somehow established (through, for example, some wrong cognition).

(Proponent :) If it is an unreal entity it can never be established through any means of knowledge. If it is established by a means of knowledge, then we ask you to describe that means of knowledge. In *vāda*, i.e., the philosophic debate whose object is to seek truth, we expect you to state the means of knowledge.

In the case of *jalpa* 'a philosophic debate whose sole object is to defeat the opponent', or in *vitaṇḍā* 'a philosophic debate whose sole object is to defeat without establishing any position' too, we shall not be guilty of self-contradiction, because we simply ask you about the means of knowledge by which your *pakṣa* 'minor term', etc. are established. It is impossible as well as undesirable for you to answer by supplying the means of knowledge. If you answer without supplying the means of knowledge, then your own statement will be self-defeating, because you have to admit yourself that there is no means of knowledge to establish your *pakṣa* 'minor term', etc. And if you do not answer at all you will meet the 'defeat-situation' (*nigrahasthāna*) called *a-pratibhā*, 'silence due to lack of intelligence'. [Read *pakṣādiṣu*' instead of '*praśnādiṣu*'; see also for Udayana's comments on *vāda*, etc., § 1.2.]

If you could avoid self-contradiction by only conceding statements about non-entities (like the rabbit's horn) we could have allowed such an expedient. But this is not so. There is no lack of self-contradiction when we say that *something* with regard to which no statement can be made, can be the subject of a denial or a prohibitive statement.

(Opponent :) How can there be self-contradiction if we say (rephrasing our position) that a non-entity cannot be

the subject of any affirmative statement ?

(Proponent :) Oh! (Then we ask the following question :) Do you or do you not speak about something which can never be the subject of any affirmation or denial ? In either way you will contradict yourself. In either case, that *something* would be a non-entity because a real entity cannot be such that we cannot make any statement about it.

If you say no to the above question, then it will contradict the very statement "(something) can never be the subject of any affirmation or denial". For you cannot negate unless there is some subject of negation. If you, on the other hand, say yes (that is, if you admit that we can speak about something which can never be the subject of any affirmation or denial), then contradiction will appear as soon as we discuss the nature of that object (that *something*). It does not hold that something cannot be talked about, i.e., affirmed or denied, and, at the same time, it can be talked about (in the manner just stated).

If you insist that a non-entity can be the subject of a denial (i.e., a negative statement), we would ask : why can it not be the subject of an affirmation too ? The lack of an accredited means of knowing (such a non-entity) remains the same in both the cases.

(Opponent :) That the son of a barren woman does not speak can be proved (established) by pointing out that he is not a conscious being. But there is no way of proving that the son of a barren woman does speak. (Thus, we prefer the negative statements.)

(Proponent :) No. Even to prove that (the son of a barren woman does speak) you can assign the reason that he is a son (of someone and hence can speak). You cannot say that the son of a barren woman is not a son because if you do you will contradict yourself.

(Opponent :) It is a mere statement (viz., "the son of a barren women"), in fact there is no real son of a barren woman. (Hence no contradiction.)

(Proponent :) No. Even the lack of consciousness (which you adduced as your reason to prove lack of speech in the son of a barren woman) will be treated in the same manner. (One might say : "the lack of consciousness in the son of a

barren woman" is a mere phrase, there being no real son who lacks consciousness.) "Lack of consciousness" refers (in fact) to another nature which is different from consciousness.

(Opponent :) We simply want to deny (possession of) consciousness here, and this is quite possible.

(Proponent :) No. In our case also we shall say then that we simply want to deny (possession of) the property of not being a son.

(Opponent :) Our mere denial of not being a son (human offspring) cannot by itself prove the presence of activity and cognition. Thus, how can we adduce a reason (*hetu*) without including another competent, determinable (and positive) object (in our *hetu*)? (Denial cannot reveal an entity which we can use as our 'reason' *hetu*.)

(Proponent :) No. The same principle will apply to lack of consciousness.

(Opponent :) An object only in the form of a negation of the contrary possibilities can be used as the reason (to prove anything). For example, the nature of being a *śiṃśapā* tree is adduced as the reason (in the inference : it is a tree because it is a *śiṃśapā* tree) because the nature of being a *śiṃśapā* means the negation of its not being a *śiṃśapā*. The son of a barren woman, on the other hand, not simply excludes (i.e., negates) the possibility of being a pot, etc., (the contrary possibilities) but also excludes the possibility of being a son (a human offspring) like Devadatta (which is not a contrary possibility). Therefore, the nature of being the son of a barren woman cannot be adduced as the 'reason' *hetu*.

(Proponent :) The lack of consciousness (in the son of a barren woman) can also be treated in the same manner. It is not the case that the son of a barren woman (who lacks consciousness) excludes only such conscious beings as Devadatta and not also the unconscious objects such as a piece of wood.

(Opponent :) Speech is a property which is present only in real entities. Thus, in the face of contradiction, how can the presence of speech be proved in a non-entity?

(Proponent :) Through what means of knowledge can this contradiction be established ? Is it because we apprehend non-entities always without speech ? Or, because we do not apprehend speech divorced from a real entity ?

A non-entity can never be apprehended through any means of knowledge. If it could, it will not be a non-entity. The latter alternative is also not tenable because we shall be in the same predicament. Just as speech as divorced from any real entity cannot be established, so also lack of speech divorced from any real entity cannot be proved by any means of knowledge.

(Opponent :) There is only a conceptual construction of the lack of connection between the property speech and the subject.

(Proponent :) What can stop a 'conceptual construction' (*vikalpa*) of the connection between speech and the subject ?

(Opponent :) To be a speaker means to produce speech. How can such a productive power be present in a non-entity which is (supposed to be) devoid of all power to do anything ?

(Proponent :) How can there be even lack of speech ? For, lack of speech means the character of producing what is not speech. (Speechlessness implies doing something else.)

(Opponent :) It is not contradictory to say that if there is lack of power to do anything, then there is also the lack of power to speak.

(Proponent :) By what means of knowledge can it be established that the son of a barren woman lacks all power to do anything ?

(Opponent :) It lacks all power because it is a non-entity.

(Proponent :) How can you establish that it is a non-entity ?

(Opponent :) Because it lacks all power to do anything.

(Proponent :) In this way you are only moving here and there uttering mere words and trying to avoid the issue, just as a penniless borrower of money tries to avoid the money-lender. And you are not seeing the vicious circle (the defect of mutual dependence).

(Opponent :) It is a non-entity because it lacks both gradual efficiency and simultaneous efficiency. (If something cannot produce a thing either gradually or simultaneously, it is a non-entity.)

(Proponent :) No. In order to prove such lack of gradual or simultaneous efficiency, you have to adduce a means of knowledge. If the nature of being a son is applied to it, all other properties, such as being able to speak, that invariably go along with being a son, can also be applied to it. Thus, how can there be any scope of proving the lack of gradual and simultaneous efficiency in it? How can there be any scope of proving that it is a non-entity? And, how can there be any chance of proving the lack of activity, etc.? Therefore, it is our accredited means of knowledge only which is the *limit* within which our speech-behaviour should operate. If this limit is transgressed, there will certainly be chaos.

SANSKRIT TEXT

Udayana, *Ātmatattvaviveka*, pp. 56-69.

Etena vyatirekapakṣo'pi nirastaḥ.

Adhikaś ca tatrāśrayahetudṛṣṭāntasiddhau pramāṇābhāvaḥ, avastuni pramāṇāpravṛtteḥ, pramāṇapravṛttāv alīkatvānupapatteḥ.

Evam tarhy avyavahāre svavacanavirodhaḥ syād iti cet.

Tat kiṃ svavacanavirodhena teṣu pramāṇam upadarśitaṃ bhavet, vyavahāraniṣedhavyavahāro'pi vā khaṇḍitaḥ syāt, aprāmāṇiko'yaṃ vyavahāro'vaśyābhyupagantavya iti vā bhavet.

Na tāvat prathamaḥ, na hi virodhasahasreṇāpi sthire tasya kramādivirahe vā śaśaśṛṅge vā pratyakṣam anumānam vā darśayituṃ śakyam, tathātve vā kṛtaṃ bhautakalahena.

Dvitīyas tv iṣyata eva prāmāṇikaiḥ.

Avacanam eva tarhi tatra prāptam.

Kiṃ kurmo yatra vacanaṃ sarvathaivānupapannaṃ tatrāvacanam eva śreyaḥ, tvam api paribhāvaya tāvat niṣprāmāṇike'rthe mūkavāvadūkayoḥ kataraḥ śreyān?

Evaṃ viduṣāpi bhavatā na mūkībhūya sthitam, api tu vyavahāraḥ pratiṣiddha evāsatīti cet.

Satyam, yathā aprāmāṇikaḥ svavacanaviruddho'rtho mā prasāṅkṣīd iti manyamānena tvayā ca aprāmāṇika evasati vyavahāraḥ svīkṛtas tathāsmābhir api pramāṇacintāyām aprāmāṇiko vyavahāro mā prasāṅkṣid iti manyamānair aprāmāṇika eva svavacanavirodhaḥ svīkriyate. Yadi tūbhayatrāpi bhavān samānadṛṣṭiḥ syād asmābhir api tadā na kiñcid ucyata iti.

Tṛtīye tv aprāmāṇikaś cāpy avaśyābhyupagantavyaś ceti kasyeyam ājñeti bhavān eva praṣṭavyaḥ.

Vyavahārasya sudṛḍhaniruḍhatvād iti cet.

Aprāmāṇikaś ca sudṛḍhaniruḍhaś ceti vyāghātaḥ.

Kathañcid api vyavasthitatvād iti cet.

Aprāmāṇikaś cen na kathañcid api vyavatiṣṭhate, prāmāṇikaś cet tad evocyatām iti vāde vyavasthā.

Jalpavitaṇḍayos tu pakṣādiṣu pramāṇaprāśnamātrapravṛttasya na svavacanavirodhaḥ. Tatra pramāṇenottaram aniṣṭam aśakyaṃ ca, apramāṇenaiva tūttare svavacanenaiva bhaṅgaḥ, maduktesu pakṣādiṣu pramāṇaṃ nāstīti svayam eva svīkārāt, anuttare tv apratibhaiveti.

Yadi ca vyavahārasvīkāre virodhaparihāraḥ syāt asau svīkriyetāpi, na tv evam, na khalu sakalavyavahārābhājanaṃ ca tanniṣedhavyavahārabhājanam ceti vacanaṃ parasparam avirodhi.

Vidhivyavahāramātrābhiprāyeṇābhājanatvavāde kuto virodha iti cet.

Hanta, sakalavidhiniṣedhavyavahārābhājanatvena kiñcid vyavahriyate na vā, ubhayathāpi svavacanavirodhaḥ, ubhayathāpi avastunaiva tena bhavitavyam, vastunaḥ sarvavyavahāravirahānupapatteḥ.

Netipakṣe sakalavidhiniṣedhavyavahāravirahīty anenaiva vyavahāreṇa virodhāt, avyavahṛtasya niṣeddhum aśakyatvāt. Vyavahriyata iti pakṣe'pi viṣayasvarūpaparyālocanayaiva virodhāt, na hi sarva-vyavahāraviṣayaś ca vyavahriyate ceti.

Yadi cāvastuno niṣedhavyavahāragocaratvam, vidhivyavahāragocaratāpi kiṃ na syāt pramāṇābhāvasyobhayatrāpi tulyatvād iti.

Bandhyāsutasyāvaktṛtve' cetanatvādikam eva pramāṇaṃ vaktṛtve tu na kiñcid iti cet.

Na, tatrāpi sutatvasya vidyamānatvāt, na hi bandhyāyāḥ suto na sutaḥ, tahā sati svavacanavirodhāt.

Vacanamātram evaitat na tu paramārthataḥ suta evāsāv iti cet.

Na, acaitanyasyāpy evaṃrūpatvāt, cetanād anyat svabhāvāntaram eva hy acetanam ity ucyate.

Caitanyanivṛttimātram eveha vivakṣitam, tac ca sambhavaty eveti cet.

Na, tatrāpy asutatvanivṛttimātrasyaiva vivakṣitatvāt.

Asutatvanivṛttimātrasya svarūpeṇa kṛtijñaptyor asāmarthye samartham arthāntaram adhyavaseyam anantarbhāvya kuto hetutvam iti cet.

Na, acaitanye'py asya nyāyasya samānatvāt.

Vyāvṛttirūpam api tad eva gamakaṃ yad atasmād eva (vyāvartate), yathā śiṃśapātvam, bandhyāsutas tv asutād iva ghaṭādeḥ sutād api Devadattāder vyāvartate, ato na hetur iti cet.

Nanv acaitanyam evamrūpam eva, na hi bandhyāsutaś cetanād iva Devadattāder acetanād api kāṣṭhāder na vyāvartate.

Vaktṛtvaṃ vastvekaniyato dharmaḥ sa katham avastuni sādhyo virodhād iti cet.

Sa punar ayaṃ virodhaḥ kutaḥ pramāṇāt siddhaḥ—kiṃ vaktṛtvaviviktasyāvastuno niyamenopalambhāt āhosvid vastuviviktasya vaktṛtvasyānupalambhād iti.

Na tāvad avastu kenāpi pramāṇenopalambhagocaraḥ, tathātve vā nāvastu, nāpy uttaraḥ, samānatvāt, na hi vaktṛtvam iva avaktṛtvam api vastuviviktaṃ kasyacit pramāṇasya viṣayaḥ.

Tadviviktavikalpamātraṃ tāvad astīti cet.

Tatsaṃsṛṣṭavikalpane'pi ko vārayitā ?

Nanu vaktṛtvaṃ vacanaṃ prati kartṛtvam, tat katham avastuni, tasya sarvasāmarthyavirahalakṣaṇatvād iti cet.

Avaktṛtvam api kathan tatra tasya vacanetarakartṛtvalakṣaṇatvād iti.

Sarvasāmarthyavirahe vacanasāmarthyaviraho na viruddha iti cet.

Atha sarvasāmarthyaviraho bandhyāsutasya kutaḥ pramāṇāt siddhaḥ ?

Avastutvād eveti cet.

Nanv etad api kutaḥ siddham ?

Sarvasāmarthyavirahād iti cet.

So'yam itastataḥ kevalair vacanair nirdhanādhamarṇika iva sādhūn bhrāmayan parasparāśrayadoṣam api na paśyati.

Kramayaugapadyavirahād iti cet.

Na tadvirahasiddhāv api pramāṇānuyogasyānuvrtteḥ, sutatve ca parāmṛṣyamāṇe tadavinābhūtasakalavaktṛtvādidharmaprasaktau kutaḥ kramayaugapadyavirahasādhanasyāvakāśaḥ, kutastarāṃ cāvastutvasādhanasya, kutastamām cākartṛtvādisādhanānām. Tasmāt pramāṇam eva sīmā vyavahārasādhanasya, tadatikrame tv aniyama eveti.

§ 2.3 : THE NAVYA-NYĀYA LOGIC OF PROPERTY & LOCATION

A judgemental cognition in Navya-nyāya is analysed in terms of property and location. Negation is always construed as term-negation. Sentential negation is usually transformed into term-negation of some kind or other. Negation of a property generates another (negative) property. A negative statement is analysed as attribution of a negative property. Properties, here, are to be understood not simply as universals. They would include any occurrent or attributable, specific features, which may even be particulars.

The universe U is peopled with loci or locations where properties are locatable. The presence-range of a property is the set of loci where it is locatable. The absence-range is the set of loci where it is not locatable.

A property with an empty presence-range is unlocatable. It is ruled as fictitious (e.g., the golden mountain). Properties with empty absence-ranges are admitted as real (non-fictitious), e.g., knowability. They are called ever-present (see next section). Both the fictitious (unlocatables) and the ever-present are ruled as unnegatable, for, negation of them does not generate real (locatable) properties. A property is unreal if it is not locatable.

Most properties are *wholly* locatable, such that they are not co-locatable with their absences in the same set of loci. But some properties are partially locatable, such as chair-contact. Such a property is apparently co-locatable with its absence in

the same locus. This infringes upon the generally understood law of negation. For we can say, with regard to the same locus, that it has as well as does *not* have a particular property (in the given sense). Thus, a device is used to reparse the partially locatable properties as wholly locatable, so that the standard notion of negation may not be 'mutilated' in this system.

Non-deviation and pervasion are two important logical relations which generate inference in the system. The Navya-nyāya formulation of these relations will be given here. Navya-nyāya insistence on the non-emptiness of the presence-range of properties serves the purpose of making the existential import of general statements explicit. In this respect, non-deviation can be contrasted with the A-relation of Aristotle.

To explain the notion of the unnegatable as well as the negation of the partially locatable, some concepts of a multiple-valued system may be used with an entirely different interpretation of the values. The negation matrix has been given at the end of this section. I shall continue the discussion of the unnegatables (i.e., the ever present properties) in the next section.

Despite the peculiarities mentioned above, Navya-nyāya tries to work with the standard notion of negation in a two-valued logic. This will be clear from the two previous sections (§ 2.1, § 2.2) as well as from this section.

The quest for good reasons which generate dependable and acceptable conclusion is almost universal. Indian logic, by which I mean a combined tradition of the Buddhist, Nyāya and the Jaina, is only another instantiation of this universal quest in the intellectual history of mankind. It represents an independent tradition of studying inference and its soundness. Just because of its difference as well as independence from the Western tradition, the inference theory developed here should prove extremely interesting for both logicians and philosophers. The Indian theory of inference shows also a continuous development from the pre-Christian era upto the seventeenth century A.D. It lacks, it is true, some of the familiar logical (and mathematical) notions which logicians of today have come to expect. But then it offers a contrast in these areas with Western logical

theories that developed primarily during the last two centuries. It is also instructive. For, it shows, at least, what other ways are left to us for solving some logical problems in case certain familiar devices were not available.

With this as a prelude let me describe some features of what has been called "Navya-nyāya logic" or just "Navya-nyāya"—a system that developed within the Nyāya tradition beginning from 1100 A.D. It absorbed the Buddhist criticism of the earlier Nyāya school and reformulated its older theory of inference. In this section, I shall first outline the Navya-nyāya concept of property and location and the logical relations formulated in terms of property and location. I shall then make some observations to show the relevance of some Navya-nyāya theories to certain modern concerns in the philosophy of logic.

Cognitive states

Navya-nyāya analyses cognitions in terms of property and location or locus. More correctly, Navya-nyāya analyses what I have elsewhere called judgemental or qualificative cognitive states in terms of qualifiers and qualificands.[1] Such a cognitive event is usually represented by a sentence. Because of the use of the term "cognitive" or "cognition" here, a logician trained in the tradition of Frege and Carnap may immediately bring the charge of "psychologism" against Navya-nyāya. But I have argued elsewhere that this charge is not always relevant.[2] Navya-nyāya is concerned with the 'objective' content of a cognitive event and analyses the sentence that is supposed to represent the structure of such a content. It is not concerned with the psychological act of cognition as such. Thus, in Navya-nyāya logic when one cognitive event is said to be contradictory to another, it is not just their psychological impossibility that is appealed to. In other words, what is appealed to here is the impossibility that is completely determined by the logical relation between *p* and *not-p*.

Dignāga suggested a *dharma-dharmin* ("property and locus") analysis of a qualificative (judgemental) cognitive event. In

[1] B. K. Matilal (1968), p. 12.
[2] See B. K. Matilal (1986), p. 121-122.

Dignāga's terminology, however, such a cognitive event is called 'constructive'; for, Dignāga, like the British empiricists, emphasized a distinction between the data (immediately 'given' in consciousness) and the constructs based on the data. Existence or reality is ascribed only to the data (*svalakṣana* "unique particular"), and the constructs are products of imagination (*kalpanā*). Navya-nyāya rejected this ontology of data of the Buddhists, but accepted the *dharma-dharmin* analysis of a cognitive event that is propositional.

Properties

A cognitive event is usually said to locate a property in a locus : the form is '*x* has *p*' or '*p* (is) in *x*'. Simple predicate formulations, such as '*x* is *F*' are noted, but only to be rephrased as '*x* has *F-ness*' (where "*F-ness*" stands for the property derived from "*F*"). Thus, we have here two types of individuals—properties and locations or loci. Correspondingly, we can talk about two sorts of individual constants : property-terms (*r*, *s*, *t*, *u*, *w*, *h*....) and location-terms (*l*, *m*, *n*, *o*, *p*). The best example of a property-term is "blue-colour" which is locatable in a cup that is blue, or the property expressed by "cowness" that is locatable in a cow (in any cow). Such physical materials as a cup, fire, smoke, water, and a pot are also treated in Navya-nyāya as properties, inasmuch as they are locatable in such loci as a table, a mountain, ground, the kitchen and the plate. Hence, terms expressing such physical materials are treated as property-terms in the specific sense of being a property-particular, that I have alluded to in the beginning of this section. The apparent oddity of treating such things as properties can be resolved if we conceive anything to be a property that purports to have a location and allow a sort of stipulative identity between having a cup on it and cup-property. In other words, we have to stipulate a sort of referential identity between such expressions as "cup-possessor-hood" and "cup" (used as a property). One may even suggest a distinction here between two uses of the expression "cup": one use of "cup" ("a cup" or "the cup") is to refer to the locus of properties, the other use ("a cup" or "the cup") is to refer to a property. Both refer to the same ontological entity but to different logical constructs.

It may further be noted that even a so-called relation (a connector) may sometimes be treated as a property in Navya-nyāya. If a relation is tied in one end to the relatum, then the whole complex can be treated as a particular qualifier of the other relatum. Thus, the cup-contact in the case of a cup being placed on a table can be treated as a property or a qualifier of that table, provided we can take the cup-contact as a particular locatable on the table, the locus.

Negation

Navya-nyāya basically recognizes two types of negation : absence and difference. Most peculiar features of Navya-nyāya emerge in connection with its interpretation of negation of properties. Sentential negation is usually avoided. A negation is construed as a term-negation in either of the following ways. We get an absence when it is a negation of occurrence or location, a difference when it is a negation of identity. When a negation or a negative statement negates location or occurrence of a property in a locus, it is construed as ascribing the absence of a property to that locus. Thus, absence of a property is treated as another property. "The pot is not blue" is first rephrased here as "the pot does not have blue colour" which is further rephrased as "the pot has the absence of blue colour." Using the complement sign '–' for term-negation, we can represent the above statement (m = the pot, s = blue colour) :

"m has ^{-}s."

When a statement negates an identity between, say, a table and a cup, it is construed as "a table is different from a cup" ("$s \neq t$"). Navya-nyāya argues that to say that a table is different from a cup is equivalent to saying "a table lacks the *essence* of a cup, or simply, lacks cupness". In other words, 'difference from a cup' is said to be extensionally equivalent to 'the absence of cupness' (which means that both these properties are locatable in the same set of loci).

World of loci : Presence-range and Absence-range

Let us conceive of a universe U, which is peopled with loci or locations. Locations are called locations, because they accommodate 'properties', in our specific sense of the term, i.e., in

the peculiar sense that we have tried to develop here. And similarly, properties are properties as long as they are locatable in some locus or other. Henceforth, I shall use the term 'property' unabashedly in this specific sense.

Given a particular property *t*, we can find a set of locations or loci where *t* is locatable or present, and another set of loci where *t* is not locatable. Let us call the former set the presence-range of *t*, and the latter the absence-range of *t*. Let us use the notation '$t+$' for the presence-range of *t*, and '$t-$' for the absence-range of *t*. Thus, ordinarily, the two sets, $t+$ and $t-$, are supposed to exhaust the universe of loci U.

The unlocatables

Navya-nyāya demands that the presence-range of a non-fictitious (real) property should be non-empty. Navya-nyāya argues that if the presence-range be empty then the property in question would be unlocatable.[1] An unlocatable property is a suspect in Navya-nyāya. It is regarded as a fictitious property which cannot be located in our universe of loci. It is called an *a-prasiddha* property "unexampled" property, i.e., 'unestablished', imaginary property.[2] Using modern terminology, we may say that it is a property which has location in a possible world, but not in the actual world. (I shall come back to this problem in the last chapter.) Navya-nyāya hesitates to perform logical operation on such a property. For example, one cannot negate such a property and thereby obtain or derive another (negative) property ! For, they would not be locatable in the actual world. Thus, we have the following restriction on negation : If *s* is a property with a non-empty presence-range, then by negating it we get another property, a negative property $\bar{s}$; but if *s* is unlocatable, it cannot even be successfully negated.

Properties in Navya-nyāya are either atomic (or 'simple') or composite. A composite property is formed out of atomic ones, and, hence, such a property is analysable into atomic com-

[1]See before; sections 2.1, and 2.2. The 'unlocatable' is another way of talking about the non-existent entities, and, hence, is connected with the problem of empty terms.

[2]D.H.H Ingalls, p. 61.

ponents or 'simple' properties. A 'simple' property is regarded as fundamental. It is not analysable into components. (For more on the notion of 'simple' property, see the previous section).[1] An example of simple property is: cowness. The absence of cowness is a composite property. All fictitious properties like the property of being a flying horse, that of being a unicorn, a golden mountain and the son of a barren woman, are composite properties, being analysable into a number of 'simple' properties. And, it is argued, such 'simple' components are always *real* properties in the sense that they are locatable in some locus or other in our actual world (§ 2.1, § 2.2).

The unnegatables

If the presence-range of a property is empty, it is unlocatable. Nyāya calls such a property fictitious. What about properties whose absence-range is empty ? Nyāya admits such properties as real, i.e., non-fictitious. They are called ever-present properties (cf., *kevalānvayin*). They are said to be locatable in all loci of U. Examples of such properties are : knowability, expressibility and provability (see next section).

An ever-present property is non-fictitious in Navya-nyāya, for, its presence-range is non-empty (in fact, the presence-range is the whole universe U). We have to assume that such a property is locatable also in itself, for, it must belong to the universe U. But since its absence-range is empty, Navya-nyāya regards such a property as unnegatable ! In other words, just as an unlocatable property is said to be not negatable in Navya-nyāya, an ever-present property is also regarded as not negatable. For, we cannot derive a real, non-fictitious (negative) property by negating an ever-present property. Thus, we have another restriction on the operation of negation : If *s* is an ever-present property, it is locatable (i.e., real), but it is, nevertheless, unnegatable.

It is obvious that the introduction of ever-present properties in the system involves many logical difficulties. Thus, some pre-Gaṅgeśa Nyāya logicians were definitely not in favour of using such a concept. They argued that a *true* property should have a non-empty presence-range as well as a non-empty absence-range. If we rule the unlocatables as fictitious, we might

[1] See also B. K. Matilal (1971), pp. 83-91.

as well rule the ever-present properties as fictitious, for, both, as we have seen, cannot be successfully negated. But Gaṅgeśa rejected this view and argued that even if we do not accept such properties like knowability as non-fictitious, we cannot escape from admitting other kinds of ever-present properties. For, if we believe that each locus in the universe of loci is distinct from another, then this property, distinctness, can be construed as an ever-present property (for more on this argument, see next section).

Sondaḍa disputed the position that the unlocatables can be unnegatable. If we admit an ever-present property as real (non-fictitious), i.e., accept such a property to be real as is locatable in all loci, then, one might argue, by negating a so-called unlocatable property, we obtain only a negative property which should be locatable in all loci. In other words, such a negative property has to be admitted as real because its presence-range is non-empty (it is an ever-present property). Thus, if the property of being a golden mountain is unlocatable, then the absence of such a property is to be located everywhere ! For, it makes perfect sense to say that there is no golden mountain, or that all loci in our actual world lack the property of being a golden mountain.

But Gaṅgeśa refuted Sondaḍa's contention. An unlocatable property, according to Gaṅgeśa, resists the operation of negation. Negation is restricted to the locatables and again only to such locatables whose absence-ranges are non-empty. To say, "there is no golden mountain" means, for Gaṅgeśa, that no mountain is golden, i.e., made of gold. But 'the property of being a golden mountain' as expressing a composite property is unlocatable.

Partial location

We face a further oddity about negation when Navya-nyāya introduces the notion of partial location (cf., *avyāpya-vṛtti*, Ingalls : "incomplete occurrence") of properties. Most properties are wholly or pervasively occurrent or locatable in their loci, but some properties are said to be only partially or non-pervasively occurrent or locatable in their loci. (We may imagine a 'property'(*dharma*) in this sense to be a paint-coating, with which the locus is besmeared partly or wholly.)

To explain this notion we have to develop some further

logical vocabularies. Let us use a two place predicate (a relational term), '*L*' for "locus of"; we can then define some other (logical) predicates or connections in terms of this '*L*'. First, let us define the connection of co-location, '*C*'. We can say that *s* is co-located with *t* provided there is a locus where both *s* and *t* are locatable. Thus, co-location is symmetrical. In other words, one property is co-locatable with another just in case their presence-ranges intersect or overlap. Using the convention of modern logic, we can say that *s* is co-locatable with *t* provided the logical product of $s+$ and $t+$ is non-empty. Lotus-hood and blue are co-locatable in things we call "blue lotuses". If such things did not exist in our actual world, the said logical product would have been empty.

In the above we have noted that if *s* is a locatable property then $s+$ and $s-$ exhaust the universe of loci U. But we have not required the presence-range and the absence-range of *s* to be disjoint. In other words, we have left open the possibility of one intersecting the other. According to Navya-nyāya conception of negation, this is not impossible : In other words, a property and its absence may both be locatable in the same locus. Navya-nyāya calls such properties partially or non-pervasively locatable.

A property is pervasively (wholly) locatable provided it is not co-locatable with its absence. But when a property is co-locatable with its absence, it is called a partially locatable property. To put it in another way, if the absence-range of a property overlaps or intersects its presence-range, it is only a partially locatable property.

Physical contact is the best example of a partially locatable property. When I am sitting on a chair, there are places in the chair where my body-contact is absent. Thus, the same chair is said to be the locus of my body-contact (as a property) and also of the absence of my contact. Obviously it clashes with our general notion of negation to say that the same locus is characterized by a property and its absence at the same time. (Remember that absence of a property means only the negation of that property. How can we affirm and negate the same property of the same locus ?) Thus, this doctrine of partial location requires some reformulation of the usual notion of contradiction. A property and its absence cannot be

'contradictory' in this sense (cf., *sahānavasthāna*) unless their loci or places of occurrence are specifically qualified in details (using 'delimitors', etc.).

An example may illustrate some further problems involved in the notion of partial location. Suppose, w is a partially locatable property. Now the absence-range of w will include not only those loci where w is absent (wholly) but also those loci where w is partially present. In other words, the presence-range of $\tilde{w}$ includes the presence-range of w. Thus, the presence-range of $\tilde{w}$ is the whole universe of the loci U. This means that if w is a partially locatable property, then $\tilde{w}$ is an ever-present property, for, the formal character of an ever-present property will undoubtedly apply to it. Now, if we negate further $\tilde{w}$, we are supposed to derive an unlocatable property. (Remember the previous point: negation of the ever-present generates the unlocatable.) However, Navya-nyāya accepts the law of double negation. Udayana formulated the law as follows : the negation of the negation of a property is identical with the property itself (*Nyāya-kusumañjali* Ch. 3 verse 2). Thus, we must have : the absence of $\tilde{w}=w$. We face here an apparently paradoxical situation : if w is a partially locatable property, then w can be shown to be unlocatable !

Gaṅgeśa avoids this apparent problem by pointing out that there are two kinds of ever-present property, one of which is to be treated as unnegatable but the other is negatable. It is all right to say that when w is partially locatable $\tilde{w}$ becomes an ever-present property in the above manner, for it is present not only where w is absent but also where w is present. But $\tilde{w}$ is also partially locatable with regard to some of its loci. In other words, the presence-range of $\tilde{w}$ is actually a combination of the two : its *pure* presence-range (where w is not present) and a *mixed* range where $\tilde{w}$ is co-locatable with w. Thus, $\tilde{w}$ is a partially locatable ever-present property, and as such, it is negatable. The absence-range of $\tilde{w}$ is non-empty; it coincides with the presence-range (which is a 'mixed' range) of w. Thus, we have a formal restriction on the former restriction of negation : not all ever-present properties are unnegatable.

Gaṅgeśa saved the law of double negation by resolving the oddity in the above manner. Some Navya-nyāya writers differed

from him in this regard. Raghunātha, for example, suggested that the law of double negation be given up in the given context, for, it is based upon only *extensional* identity (their presence-ranges and absence-ranges being equal). Intensionally, w and the absence of $\tilde{w}$ are distinguishable.

Mathurānātha suggested a different method of resolving the above oddity. According to him, instead of treating $\tilde{w}$ as ever-present, we should treat the expression "$\tilde{w}$" as ambiguously referring to two distinct (negative) properties : one that is partially locatable in its loci, the other wholly locatable in its loci. The presence-range of the first is disjoint from that of the second. The first is actually co-locatable with w, but the second is locatable where and only where w is not locatable. Thus, the problem of negating an ever-present property will not arise in this case.

Deviation and Pervasion

In the above we have defined co-location. Let us define some more logical predicates, such as, deviation (D), non-deviation (N) and pervasion (V). We can say that h deviates from s just in case the absence-range of the latter overlaps (intersects) the presence-range of the former (cf., *sādhyābhāvavad-vṛttitvaṃ vyabhicāraḥ*). Using the modern logical, i.e., the Boolean convention, we can write :

$$hDs \text{ iff } h+ . s- \neq 0.$$

Similarly, h non-deviates from s if and only if $s-$ does not overlap $h+$ (*sādhyābhāvavad-avṛttitvaṃ avyabhicāraḥ*) :

$$hNs \text{ iff } h+ . s- = 0.$$

The relation of pervasion (*vyāpti*) is an important relation in Navya-nyāya, since it allows valid inference of one property from another. Thus, if h is pervaded by s then from the presence of h in a particular locus, we can validly infer presence of s in it. The rule is: $(hLm.\ sVh) \supset sLm$.

The relation 'pervaded by' is identifiable with non-deviation (defined above) as long as we talk of such properties whose absence-ranges are non-empty. (For, we have used the absence-range of s in the above definition of non-deviation.) However, if s is unnegatable, the above definition, according to Navya-

nyāya, becomes inapplicable. There are also several ever-present properties, according to Nyāya, and, hence, one can be inferable from another. Thus, Gaṅgeśa reformulates the definition of pervasion which will be inclusive of pervasion between ever-present (unnegatable) properties. (cf., *hetuman-niṣṭhābhāvāprati-yogi-sādhya-sāmānādhikaraṇyam vyāptiḥ*) : Thus, we may say : s pervades h if and only if (1) s is co-located with h and (2) if the absence-range of any property t intersects the presence-range of h, then t is non-identical with s.

$$sVh \text{ iff } s+.h+\neq 0 \textit{ and } \text{if } (t-.h+\neq 0), \text{ then } t\neq s.$$

A further problem arises when s becomes a partially locatable property. For, we have seen that, by definition, the presence-range and the absence-range of such a partially locatable property do intersect. Thus, when s is partially locatable, its absence-range includes its presence-range, and thereby its absence-range intersects the presence-range of h. Thus, the second component of the above definition may not be satisfied by such an s. Gaṅgeśa avoids this quandary by suggesting further qualification of the above definition :

$$sVh \text{ iff } s+.h+\neq 0 \textit{ and } \text{if } (t+.t--=0 \;\&\; h+.t--\neq 0) \text{ then } t\neq s.$$

There will arise some further problems even in this formulation, and commentators of Gaṅgeśa discussed them in detail. But I shall move on to the next section without going into such details.

I shall make some general observations in which I shall try to connect the problems discussed above with the explicit concern of modern logicians. This is by way of answering the criticism, viz., why these theories would form part of a study that has been called 'logic'. Let us note, first, that non-deviation and pervasion relation may be compared with the A-relation of Aristotle, for all three share the common logical feature, i.e., transitivity. For contrast, we may say that the Navya-nyāya formulation of non-deviation (or pervasion relation), while it is narrower in its scope, does not suffer from the same ambiguity which the A-relation of Aristotle seems to have suffered from.[1]

It is often pointed out, for example, that the existential import of the A-proposition should be assumed, in order that

[1] P. F. Strawson, *Introduction to Logical Theory* (Reprinted 1960), p. 196.

all the laws of the traditional (Aristotelian) system might be satisfied. Strawson has discussed three possible interpretations of the four propositions of Aristotle, and has shown that all the traditional laws can be satisfied under the third. In the context of Indian logic, we are primarily concerned with a general (affirmative) proposition which is used as the major premise. Richard S. Y. Chi has rightly pointed out (against the common misinterpretation of many modern writers on Indian logic) that the 'exemplified major' in the Indian variety of syllogism is actually to be interpreted as 'an existential major premise'.[1] By 'an existential major premise' Chi has obviously meant a general affirmative proposition where the non-emptiness of the class denoted by the subject term is presupposed.

The contrast between non-deviation (or pervasion) on the one hand and the A-relation of Aristotle on the other can be brought about in the following way. Navya-nyāya says that non-deviation of h from s holds when the following conditions are satisfied :

i) h and s have non-empty presence-ranges;
ii) s is not unnegatable, i.e., its absence-range is non-empty;
and iii) the absence-range of s does not intersect the presence range of h.

And pervasion of s with h holds when :

i) the non-empty presence-ranges of s and h intersect;
and ii) if h is locatable in the absence-range of any t, then $t \neq s$.

Following Strawson, we can represent the three interpretations of the A-relation and contrast them with non-deviation and pervasion as follows:

xAy (1st inter.) $a\bar{b}=0$
(2nd inter.) $a\bar{b}=0.\ a\neq 0.$
(3rd inter.) $a\bar{b}=0\ .\ a\neq 0.\ \bar{b}\neq 0.$
hNs $(h+.s-=0).\ h+\neq 0.\ s-\neq 0.\ s+\neq 0.$
sVh $(h+.s+\neq 0).$ Not $(h+.t-\neq 0\ .\ t=s).$

From the above it is clear that the third interpretation of the A-relation is closer to the concept of non-deviation in Navya-nyāya except for the fact that the latter requires an additional condition.

[1]R.S.Y. Chi, *Buddhist Formal Logic*, pp. xxx-xxxi.

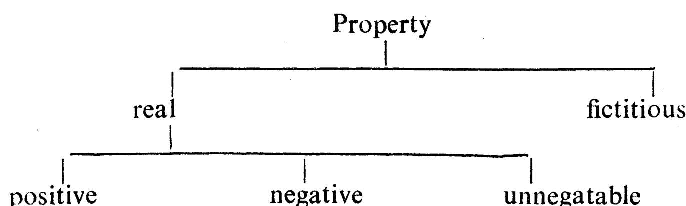
Navya-nyāya's insistence on the non-emptiness of the presence-range or absence-range of properties pays dividend in the long run, inasmuch as it makes the *presupposition* of a general statement (involving non-deviation or pervasion) explicit. It should, however, be noted that both non-deviation and pervasion are much stricter relations compared to the A-relation. (This will also support our contention stated in the first section of Chapter 1 of this book : The notion of *vyāpti* is not derived from the A-relation of Aristotle.)

Second, let us note that most inferences studied in Navya-nyāya try to locate a property (called *sādhya* 'inferable property' *s*) in a particular locus (called *pakṣa*) with the help of another property (called *hetu* 'reason' *h*). Thus, the predominant inference-pattern of Navya-nyāya corresponds to what W. V. Quine has called 'singular inference'.[1] Hence, contrary to the belief of some modern interpreters of Indian logic, the Navya-nyāya inference is not exactly a *Barbara*, but a singular inference. Chi has distinguished the standard *Barbara* from the singular inference by calling the latter *Barbara-A* and the former *Barbara-B*.[2] Navya-nyāya, however, allows inferences corresponding to *Barbara-B*, for it notes that the 'pervasion' relation is transitive (cf., *tad-vyāpaka-vyāpakasya tad-vyāpakatvam, tad-vyāpya-vyāpyasya tad-vyāpyatvam*).

The Navya-nyāya restrictions on negation are instructive in many ways. To recapitulate briefly the Navya-nyāya position on negation : A property with an empty presence-range is called fictitious or unreal. We have called it unlocatable. Negation is viewed as an operation on *real* (non-fictitious) properties generating further *real* (i.e., locatable but negative) properties. Thus, a property with an empty absence-range is considered unnegatable in this system. For, although such a property is held to be *real* (since it is locatable), its negation would not generate a real (i.e., locatable) property.

It is possible to use some notions of multiple-valued logic under a special non-standard interpretation in order to represent the domain of properties in Navya-nyāya. Using "property" in the widest sense, we can construct the following tree to represent the branching of properties (particulars).

[1] W. V. Quine, *Methods of Logic*, p. 196.
[2] R. S. Y. Chi, p. 13ff.



In ordinary three-valued system, such values as *T*, *F* and *I* are usually interpreted as "truth", "falsity", and "intermediate" (or, "undecided" or "neither true nor false"). Let us propose a completely different interpretation of values for the representation of the so-called real properties of Navya-nyāya. Our proposed three values are : P (for "positive"), N (for "negative") and U (for "unnegatable"). Now, we can have a standard three-valued negation as the following table will show :

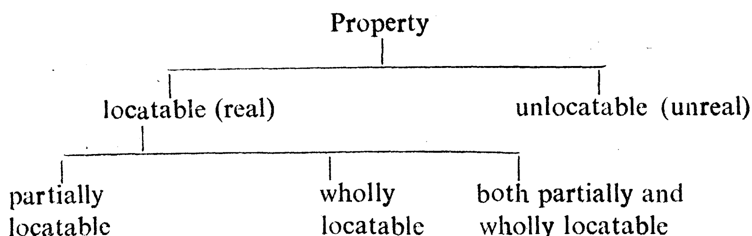
w	not-*w*
P	N
N	P
U	U

This has the desirable outcome, viz.,

The presence-range of w = The absence-range of $\tilde{w}$,
The absence-range of w = The presence-range of $\tilde{w}$.

But, by negating an unnegatable we get only another unnegatable (a fictitious one). Further, since combination of an unnegatable with positive yields, for Navya-nyāya, a positive property (and disjunction of a positive with an unnegatable yields an unnegatable), the corresponding tables for "AND" and "OR" can be constructed accordingly. But these tables will differ from the standard tables in some respects.

The problem of negation of the partially locatable properties can be tackled in another way. Let us construe the negation of a partially locatable property as both partially and wholly locatable. Then, we can agree with the following fourfold classification of properties :



We have seen, for example, that negation of the body-chair-contact (a partially locatable property) yields a (negative) property which is both partially locatable (in the same loci e.g., my body) and wholly locatable in other loci. Here, using the notion of a multiple-valued system, we can assign value 1 for the wholly locatable, 2 for the partially locatable, 3 for those which are both partially and wholly locatable, and 4 for the unlocatable. Thus, we can construct a four-valued system with non-standard interpretation of all values, and the negation matrix can be written as :

w	*not-w*
1	1
2	3
3	2
4	4

Finally, we may note that despite the above oddities, the Navya-nyāya doctrine of negation is not very different from what is usually called "classical" or standard negation. The law of double negation, which roughly combines the law of contradiction and the law of excluded middle, is always satisfied by what Nyāya calls wholly locatable properties. (Only Raghunātha, a commentator of Gaṅgeśa, disputed this position which I have mentioned above.) Thus, within the domain of wholly locatable properties, our standard notion of negation is not "mutilated" (to use a term used by Quine).[1]

Since the notion of partial location creates difficulty in interpreting negation in the standard fashion, Navya-nyāya recommends the use of the technique of *delimitors* (cf., *avacchedaka*), by which a partially locatable property can be parsed

[1]W. V. Quine, *Philosophy of Logic*, p. 7.

as a wholly locatable one so that negation can be given the desirable standard interpretation. By declaring the unlocatables, as unnegatable, Navya-nyāya solves another problem that may possibly arise due to what is called "truth-value gaps" of such propositions as : "There is no golden mountain" or "The son of a barren woman does not speak" (Udayana's example). Thus, inspite of the oddities encountered in Navya-nyāya theories, attempt has constantly been made here, with regard to negation, to follow what Quine has called the maxim of minimum multilation.

§2.4 : The Problem of Universal 'Properties' (Kevalānvayin)

We have seen in the previous sections that certain problems are rather peculiar to Navya-nyāya. They arise in the discussion of the Nyāya-Buddhist logical theories because of certain particular doctrines that were already propounded in the tradition. The concept of universal or ever-present properties is one such doctrine. As I have already noted, these universal properties cannot be equated with the notion of the universal class. For, to be sure, knowability and namability are held to be non-identical properties, although they are said to occupy the same set of entities as loci.

That certain properties could be present in everything was an idea that was already implicit in the 'wheel of reasons' (*hetucakra*) of Dignāga and the theory of inference propounded therein. If inference is the establishment of an object (or property in our sense described before) through an already known object occurring in a subject-locus (which is again another object), then what we have is a three-term operation. The first object is what we prove (to be precise, whose presence or occurrence we prove) by inference, and it is, accordingly, called *sādhya*. The second is what *proves* (or to be precise, whose presence in the third object as well as its relation with the first, proves), and, hence, it is called *sādhana* or *hetu*. The third object is called the *pakṣa*. (In this way of putting the matter, no distinction will be made between "object" and "property", for, both are alike members or items of the so-called universe of discourse.) Due to the above reason, most modern writers have translated '*sādhya*' as probandum

and '*hetu*' as probans, and I have sometimes followed them. However, obviously, the terms, probandum and probans, are not at all familiar to those who today write and read philosophical treatises in English. There is, therefore, some argument in favour of retaining these terms, *sādhya* and *hetu*, in the English versions. My advice is this. If 'probandum' and 'probans' seem almost as opaque as '*sādhya*' and '*hetu*', one may very well leave these two terms untranslated. In what follows, if the reader finds the probans-and-probandum pair unacceptable, he may substitute it by the *sādhya*-and-*hetu* pair.

Now, to sketch Dignāga's 'wheel or reasons', we can define the class of agreeing instances (*sapakṣa*) as the class α of all objects x such that the probandum is present in x. In symbols: $\hat{x}$(x possesses the probandum). Similarly, the class of disagreeing instances (*vipakṣa*) can be defined as class β of all objects x such that the probandum is absent from x. In symbols: $\hat{x}$—(x possesses the probandum). Thus, any member of α is a *sapakṣa*[1] and any member of β is a *vipakṣa*. Now, the probans as a property can be present in all, some or no members of α. Similarly, the probans can be present in all, some or no members of β. Combining these two sets of cases we get nine possibilities, of which only two cases are cases of valid inference.[2]

The above is a rough sketch of Dignāga's system of logic as

[1]There is, however, one difficulty here. The *pakṣa*, i.e., the subject of inferential conclusion, possesses also the probandum, if the inference is a valid one. Thus, *pakṣa* should also be a member of α. But to avoid a *petitio principii*, the *pakṣa* should be considered as being in a twilight zone during the process of inference. In other words, we are not sure whether the probandum is present in the *pakṣa* or not. Dignāga defined *pakṣa* as: *sādhyatvenepsitaḥ pakṣó viruddhārthānirākṛtaḥ* (quoted by Vācaspati (1925) p. 273). In his system, *pakṣa* differs from *sapakṣa* in that in the latter the probandum is already established while in the former the probandum is *not yet* established. See Dignāga (1968) Chapter III, verse 18cd and the *vṛtti*; Kanakavarman (fol. 130a-130b), Vasudhararakṣita (fol. 45a). I owe this information to my friend Prof. M. Hattori. Navya-nyāya tackled this problem by its doctrine of *pakṣatā*. See Maṇikaṇṭha [1953] pp. 109-115; GAṆGEŚA [1926] pp. 1079-1176.

[2]The second and the eighth in Dignāga's table are valid forms of inference. In one case the probandum and the probans are equal in extension, in the other case the class of probans is included under the class of probandum. See next note.

found in his *Hetucakraḍamaru* (c. A. D. 500)[1] For our purpose it is important to note here that one of the nine possibilities demands that the probans be present in all members of α as well as β. Now, if α and β are taken to be two complementary classes in the sense that taken together they exhaust the whole universe of discourse, then the probans in the above case will be a universal property which is present everywhere. UDDYOTAKARA [1915] argued that in some cases of inference even our probandum can be a universal, i.e., ever-present property. This implies that with regard to certain cases of inference class β may be a null class, class α being a universal class.[2]

In Navya-nyāya school, however, the concept of ever-present property appears to have been taken very seriously. Navya-nyāya writers like Vallabha, Maṇikaṇṭha and Gaṅgeśa, rejected all such definitions of *vyāpti* (invariable concomitance between the probans and the probandum) as were based on the notion of non-deviation (*avyabhicaritatva*), because such definition would be inapplicable to cases of inference with an ever-present property as the probandum.[3] The *siddhāntalakṣaṇa* 'conclusive definition' of *vyāpti* is formulated in such a way that it becomes logically applicable to all cases of inference including those in which some ever-present property is the probandum.[4] I have presented my version of this definition of *vyāpti* in the previous section.

[1]This is a very short but illuminating manual of logic written by Dignāga. It consists of a table of nine forms of inference and only 17 explanatory verses. The Sanskrit original is lost but the Tibetan translation is available.

[2]I am using the term "everpresent" to translate the Sanskrit "*kevalānvayin*" although there is a touch of neologism here. "Omnipresent" and "ubiquitous" are not acceptable for this purpose because they express just the opposite sense. The physical space, for instance, is omnipresent or ubiquitous because everything exists in space, but it is not *kevalānvayin*. "*Kevalānvayin*" means a property which is present in everything. "Unnegatable" (used by Ingalls) may be all right inspite of the periphrasis, but I fear that it is more suitable to be an adjective of "term" rather than of "property". I refrain from using "universal property" in order to avoid confusion with "universal class".

[3]Thus see the previous section. Also see VALLABHA [1927-1934] (c.A.D. 1175) p. 500, line 1; MAṆIKAṆṬHA [1953] (c. A.D. 1300) pp. 45-46; and GAṄGEŚA [1926] p. 141. For an English version of the argument see INGALLS [1951] pp. 61-62, 86 and 151.

[4]See MAṆIKAṆṬHA [1953] p. 62; and GAṄGEŚA [1926] p. 391. Ingalls gave a rough idea about the structure of this definition (Ingalls [1951] p. 62).

First, an ever-present property, in the sense I am using it here, cannot be identified with the notion of universal class for the following reason. Using the convention of modern class logic we can say that classes with the same members are identical. Thus, '$\omega = \omega'$' may be written as a convenient abbreviation of '$(x)(x \varepsilon \omega \cdot \equiv \cdot x \varepsilon \omega')$'. But a property or an attribute, in its non-extensional sense, cannot be held to be identical with another attribute, even if they are present in all and only the same individuals.[1] Properties are generally regarded by the Indian logicians as non-extensional, inasmuch as we see that they do not identify two properties like *anityatva* (non-eternalness) and *kṛtakatva* (the property of being produced or caused), although they occur in exactly the same things.[2] In Udayana's system, however, such properties as are called *jāti* (generic characters) are taken in extensional sense, because Udayana identifies two *jāti* properties if only they occur in the same individuals.[3]

Following the older tradition of the Nyāya school (noted in Uddyotakara), Gaṅgeśa classified the types of inference as follows[4]: 1. *kevalānvayin*, cases in which the probandum is an ever-present property, 2. *kevalavyatirekin*, cases in which the probandum is a property *unique* to the subject (*pakṣa*) so that no agreeing instances are available, 3. *anvaya-vyatirekin*, cases in which the probandum is a property present in some examples but absent from others. The third type includes the commonest forms of inference where both classes α and β (i.e., *sapakṣa* and *vipakṣa*) are neither universal class nor null class. We shall be concerned here mainly with the first type, in which

[1]See QUINE [1961] p. 107. Particularly significant is the remark of Quine [1963] p. 2, "If someone views attributes as identical always when they are attributes of the same things, he should be viewed as talking rather of classes".

[2]Those familiar with the Western logic may recall Carnap's excellent illustration of the distinction between class and property : the class of humans and the class of featherless bipeds are identical but the property humanity is distinct from the property of being a featherless biped. See CARNAP [1956] p. 12.

[3]This is the significance of the condition called *tulyatva* (equipollence) found in the list of six *jāti-bādhakas* (impediments to generic characters) mentioned by UDAYANA [1885-1919] p. 33, lines 7-8. This will be discussed in the last part of this chapter.

[4]GAṄGEŚA [1926] p. 1326. See in this connection UDDYOTAKARA [1915] p. 46.

there cannot be any *vipakṣa*, i.e., class β is a null class. (see before § 1.4.)

Uddyotakara's example (taken from Dignāga's[1]) of *anvayin* inference (corresponding to the first type here) was "Sound is noneternal because it is a product (*anityaḥ śabdaḥ kṛtakatvāt*)". Here the probandum noneternalness will be a universal property for those thinkers who hold to the doctrine that everything is noneternal. Note here that the universe of discourse in this case will include only noneternal things and hence class β will be a null class. Vācaspati cited a better example of this type of inference: *Viśeṣa* (particularity) is namable because it is knowable. In a slightly modified form, this example was accepted as a paradigm in later Nyāya school: The pot is namable because it is knowable.

Gaṅgeśa defined this kind of inference as one where there is no disagreeing instances (*vipakṣa*). Since everything in the universe of discourse is (at least, theoretically) namable or expressible in language, the property namability (*abhidheyatva*) is a universal property and in no individual is there an absence of namability. To cite an instance where namability is absent is *ipso facto* to demonstrate that this instance is not inexpressible. If, however, the opponent does not cite such an instance where namability is absent, but, nevertheless, believes it to be existent, then as far as the logicians' inference is concerned it is as good as non-existent, since inferential procedure demands the use of language. The opponent may argue that although a disagreeing instance in this case is not expressible in language, it can still be a communicable concept in the sense that it is *conveyed* by the meaning of some linguistic expression. But this would run counter to the Nyāya thesis that there cannot be any instance which is not namable.

Gaṅgeśa argued that from the opponent's viewpoint, the notion of everpresent property invites the following paradox. If p is asserted to be an everpresent property then one can infer validly from this premiss that p is not everpresent. It is

[1] Dignāga anticipated the possibility of *kevalānvayin* inference and discussed the issue in DIGNĀGA [1965] Chapter III, verse 20. See Kanakavarman (fol. 131a-131b; Vasudhararakṣita (fol. 45a). But this created little problem in Dignāga's system. According to him, 'to be absent from *vipakṣa*' can conveniently be interpreted as 'absence of *vipakṣa*'.

observed that with regard to each property (*dharma*) it is legitimate (according to the Indian theory) to assert that each property is such that it is absent from something. Using quantificational notations and interpreting 'Fx' as 'x is a property' and 'Oxy' as 'x is present in y' we may represent this premiss as:

$$(x)\ (\exists y)\ (Fx \supset -Oxy).$$

Now, since p is a property (which we have assumed to be ever-present), it follows (by universal instantiation and truth-functional tautology) that p is such that it is *absent* from something. In other words, the conclusion is '$(\exists y) - Opy$'. This implies that there is an instance y where p (i.e., knowability) is *not* present. Thus, our original assumption that p is an everpresent property is contradicted.

Gaṅgeśa tried to answer this objection as follows. If the property 'to be absent from something', i.e., the property represented by the propositional function '$(\exists y) - Opy$', is said to be a property which is not absent from anything then the same property becomes everpresent. If, however, this property (i.e., 'to be absent from something') happens to be *not* present in something x then that x becomes, in fact, everpresent.[1] Let us try to understand the implication of this argument. Let class ω be defined as $\hat{x}\ (\exists y)-Oxy$. Now, if we assume that $(\omega \varepsilon \omega)$, it means that the statement '$(\exists y)-O\omega y$' is false, i. e., '$-(\exists y)-O\omega y$' is true. This implies that the class property of ω is something which is not absent from anything, i. e., it is everpresent. In an indirect way, this means that ω is a universal class. If, on the other hand, we assume that $\omega \varepsilon \omega$ then the statement '$(\exists y)-O\omega y$' becomes true. This means that there is something y from which the class-property ω is absent. But to deny the class-property ω of something y means to admit y as an everpresent property. (Notice that no type-difference of properties is being admitted here).

Gaṅgeśa's argument was exactly similar to this, although he did not use the notion of class. Instead, he used his notion of constant absence (*atyantābhāva*) and its counterpositive-ness or the absenteehood (*pratiyogitā*). A constant absence is arrived at by hypostatizing the negation illustrated in the matrix 'there is no

[1]This is however different from the famous class-paradox, viz., if the class of all classes which are not members of themselves is a member of itself, then it is not a member of itself. Note that Gaṅgeśa's philosophical motivation was different.

x in y' or 'x is not present in y'. Thus, y is said to be the locus which possesses constant absence of x, and x is said to be the counterpositive or absentee of an absence which is present in locus y[1]. In fact, the constant absence of x may conveniently be regarded as a class-property of the class which is defined as $\hat{y}(\exists x)$ (x is not present in y). The mutual absence of x (illustrated by the matrix 'y is not x') may likewise be regarded as a class-property of the class which is defined (using usual symbols for identity and negation) as $\hat{y}$ $(\exists x)$ $(x \neq y)$. This interpretation of absences in terms of the class-concept of modern logic gets indirect support from the fact that Navya-nyāya, in most cases, identifies two absences which occur in the same loci.[2]

Gaṅgeśa argued as follows. If the property of being the absentee of a constant absence does not become the absentee of any constant absence then the same property can be taken to be everpresent. And if, on the other hand, that property is regarded as the absentee of some constant absence say, the constant absence of x in locus y, then the locus y where such a constant absence resides becomes itself an everpresent property. The upshot of Gaṅgeśa's argument is that if something x is a property it does not necessarily follow that there is something else y wherefrom x will be absent. This is so because there are everpresent properties which will not be absent anywhere. An everpresent property can now be defined as:

D1. x is an everpresent property if and only if x is not the absentee of any constant absence.[3]

[1]For the notions of counterpositive and constant absence, see INGALLS [1951] p. 54-58. They have also been explained in detail in my book, see MATILAL [1968] pp. 52-61, 94-95.

[2]Thus the prevailing view of Navya-nyāya writers is that the two absences which are *samaniyata* (equipollent) are identical.

[3]MAṆIKAṆTHA [1953] gave a similar definition of everpresent property "*tatrātyantābhāvāpratiyogi dharmaḥ kevalānvayī*" (p. 126). MAṆIKAṆTHA'S three-fold classification of *parāmarśa* corresponds to Gaṅgeśa's three-fold classification of inference. But there seems to be a difference. Maṇikaṇṭha seems to consider the nature of the probans while Gaṅgeśa, as he has been explained by Raghunātha, considers the nature of the probandum. Thus, an inference with an everpresent property as the probandum and an ordinary (non-everpresent) property as the probans will be included under the first type, i.e., *kevalānvayin* inference. This is, at least, what Gadādhara seems to think. See Gadādhara's sub-commentrry on

To develop the next point in Gaṅgeśa's discussion we have to understand what Navya-nyāya calls a non-pervasive (*avyāpyavṛtti*) property (see § 2.3). A property is called non-pervasive if and only if it occupies only a part of the locus such that in remaining parts of the locus there is the constant absence of that property.[1] Thus properties like a pot or contact-with-a-monkey (in fact, almost all properties except certain abstract ones like cow-ness), with respect to their loci, such as a piece of ground or a tree, behave as non-pervasive properties. Now, the constant absence of a property p is regarded as another property, say q, which is present in all things except where p is present. But the constant absence of any non-pervasive property, it has been already argued, will become an everpresent property simply because such an absence is not only present in all loci except where the non-pervasive property in question is absent but also in locus where the same non-pervasive property is present. This follows from the very definition of non-pervasive property. However, Gaṅgeśa pointed out that as soon as we introduce the notion of delimitors (*avacchedaka*) in our discourse the constant absence of a non-pervasive property (say, a pot) can no longer be, strictly speaking, an everpresent property. Thus, a pot cannot be said to be absent from the locus ground if it is actually present there. In simple language, this only means that right in the space of the ground occupied by the pot there cannot be any constant absence of the pot. Hence, such a constant absence is not everpresent. For there is a locus, as we have just referred to, where pot-absence is not present. Note that the notion of delimitor here serves to dispel the vagueness of ordinary uses of 'locus (*adhikaraṇa*)' and 'occurrence (*vṛtti*)'.

Another suggestion for constructing an everpresent property can be given as follows. The ubiquitous physical space (*gagana*) in the Nyāya-Vaiśeṣika system of categories is held to be a non-occurrent entity in the sense that it does not occur in any locus. All entities of the Nyāya-Vaiśeṣika system are properties (in the sense that they occur in some locus or other) except entities like

Raghunātha's commentary on GAṄGEŚA [1926] p. 1327, lines 6-7: "... *kevalānvayisādhyaka-vyatirekihetoḥ kevalānvayyanumānatayā...*"

[1] See INGALLS [1951] p. 73. The meaning of "contact-with-a-monkey" has been explained by Ingalls, See also MATILAL [1968] pp. 53, 71-72.

the ubiquitous space. Thus, since there is no entity where the space might occur as a property, the constant absence of the space becomes everpresent. But this procedure eventually leads to some difficulties. Technically speaking, the constant absence of the space can very well be the absentee (*pratiyogin*) of another constant absence, viz., the constant absence of the constant absence of the space (which, according to Nyāya, is just identical with the space itself). Thus, the above definition of everpresent property cannot be applied to the constant absence of the space. This eventually landed Gaṅgeśa into the puzzling discussion of the Nayva-nyāya school, viz., what constitutes the absence of an absence ?[1] (See below §2.6, §2.7).

The constant absence of x is constantly absent from all things except those that have no x. Hence, the constant absence of the constant absence of x is present in all and only those things where x is present. Applying the principle of identification of the indiscernibles, Udayana, and following him Gaṅgeśa, identified the constant absence of the constant absence of x with x on the gound that

A. (y) (y has the constant absence of the constant absence of $x \cdot\equiv\cdot y$ has x).

The mutual absence of or difference from pot is constantly absent from all things that are called "pot", i.e., from all things that have pot-ness. Thus, the constant absence of the mutual absence of pot is present in all and only those things that have pot-ness. Therefore, as above, one can identify the constant absence of the mutual absence of pot with pot-ness on the principle that

B. (y) (y has the constant absence of the difference from pot $\cdot\equiv\cdot y$ has pot-ness).[2]

Note that we are identifying here two class-properties on the ground that the corresponding classes are identical by virtue of their having the same members. This indirectly supports my earlier suggestion that absences in many contexts can conveniently be taken to be class-properties suitably chosen. Properties, in such

[1]See Ingalls [1951] pp. 68, 71-72.
[2]See Gaṅgeśa [1926] p. 1350 : *atyantābhāvātyantābhāvaḥ pratiyogy eva; anyonyābhāvātyantābhāvas tu pratiyogivṛttir asādhārano dharma iti.* See Udayana [1926] Chapter III, verse 2.

contexts, are used in their non-intensional sense. I shall discuss these issues further in § 2.6, § 2.7.

Navya-nyāya, however, regards the constant absence of the ubiquitous space as an everpresent property, and, accordingly, Gaṅgeśa developed a technical sense of 'everpresent property' by rephrasing D1 as follows:[1]

D2. x is everpresent if and only if x is not the absentee of any occurrent (*vṛttimat*) constant absence.

Although the constant absence of the space *may be* said to be the absentee of the constant absence of the constant absence of the space, the second absence is not *occurrent* because it is to be identified with the space and the space is, by definition, not occurrent anywhere. Properties like knowability and namability are *not* the absentee of any occurrent constant absence and hence they can be called everpresent. This is one of many possible interpretations of Gaṅgeśa's rephrasing (which was ambiguous in the original). But, according to Raghunātha, this was just Gaṅgeśa's way of being polite to the opponent (cf., *abhyupagamamātram*). Actually, the constant absence of the constant absence of the space cannot be identified with the space because the above principle A is not applicable here. Since in the Nyāya-Vaiśeṣika system there is no entity which *has* the space as a property, we cannot identify it with the constant absence of the constant absence of the space under principle A. The significance of the adjective "occurrent (*vṛttimat*)" was explained by Raghunātha as follows. When something is said to be present in something else, it is present there always through some relation or other. Thus, in speaking of something as everpresent one should specify the relation through which it is considered present everywhere:

D3. x is ever present through relation r if and only if r is the delimiting relation of the absenteehood of some constant absence and x is never the counterpositive of such absence.[2]

To expose another logical difficulty involved in the notion of everpresent property, we have to go back to the definition of

[1]GAṄGEŚA [1926] p.1353: *vṛttimad-atyantābhāvāpratiyogitvaṃ kevalānvayitvam*

[2]Raghunātha comments on GAṄGEŚA [1926] p. 1354 : *evaṃ ca yatsambandhāvacchinapratiyogitākābhāvāpratiyogitvaṃ yasya tasya tena sambandhena kevalānvayitvam iti sūcayituṃ vṛttimad iti.*

kevalānvayin inference (type 1 above). First, it is odd to say that the probans does not reside in disagreeing instances, when there is, in fact, no disagreeing instance. It is further odd to say that there is no disagreeing instance, when "disagreeing instance (*vipakṣa*)" is a mere indesignate or empty (*nirupākhya*) term, for one tends to argue that to make such denials meaningful our acceptance of the existence of such non-entities is in order. Vācaspati puzzled over this problem because, according to the Nyāya theory, each negation, in order to be meaningful, must negate a real entity and must denote an absence which usually behaves as a property occurring in some locus. Thus, an absence is always determined by its absentee (i. e., the negatum) on the one hand and by the locus (*ādhāra*) on the other.[1] Vācaspati tried to solve the above puzzle by saying that the prudent course is silence, i. e., not to deny or affirm anything (including existence) of the non-existents. The denial sounds odd because its contradictory, i.e., affirmation, sounds odd too.[2] Udayana suggested a better method of answering such problems as we have seen in § 2.2. According to him, a statement like

(1) "the rabbit's horns do not exist"

does not affirm or deny existence of anything, but simply expresses an absence *not* of the rabbit's horns *but* of horns, an absence which occurs in a rabbit.[3] Note that having horns is a real property such that one can meaningfully speak of its absence (another real property for the Naiyāyikas). This analysis is related to the epistemological theory of error of the Nyāya school, which is technically known as *anyathākhyāti*. The structure of this analysis as I have already noted may remind one of B. Russell's analysis of similar statements with his theory of description.[4]

Applying Udayana's principle of analysis, Gaṅgeśa tried to make sense of the statements which make use of such indesignate

[1]VĀCASPATI [1925] p. 172 : *sadbhyām abhāvo nirūpyate naikena satety uktam.*

[2]See VĀCASPATI [1925] pp. 172-173.

[3]Compare UDAYANA [1957] p. 331: *kas tarhi śaśaśṛṅgaṃ nāstīty asyārthaḥ ? śaśe adhikaraṇe viṣāṇābhāvo' stīti.* In UDAYANA [1940] Udayana discussed at length the example "*bandhyā-suto na vaktā* (the son of a barren woman does not speak)" (see pp. 64-73).

[4]See RUSSELL [1919] pp. 168-180

expression as "the absence of an ever-present property like knowability", viz.,

(2) "the absence of knowability is *not* present in *y*" (a true one).
(3) "the absence of knowability is present in *y*" (a false one).

Note that "the absence of knowability" is, as it stands, an empty term and on par with "the present king of France". According to Gaṅgeśa, we can rephrase (2) and (3) as:

(4) Knowability is not the absentee of any absence that may occur in *y*.
(5) Knowability is the absentee of an absence which occurs in *y*.

Here, (4) predicates of knowability the *absence* of the property of being the absentee of any absence occurring in *y*, while (5) predicates of knowability the absenteehood of an absence occurring in *y*. Thus, (4) expresses a trivial truth (see D1 before) while (5) expresses a falsehood. Note that "an absence which occurs in *y*" will denote a real absence occurring in the thing substituted for '*y*' and that its absentee will be a real entity. Hence the property of being such an absentee is also a real property which characterizes certain things (viz., things which are really absent from *y*) but not knowability.

Gaṅgeśa used this method of analysis in order to make sense of the doubt or uncertainty (*saṃśaya*) of the form "perhaps it is knowable, perhaps it is not". This statement which expresses a doubt can be said to be a meaningful statement if it is rephrased in the above manner so as to avoid the use of any empty term-complex such as "the absence of knowability" (which refers to nothing as in 3 above). Note that the second part of the statement expressing doubt, viz., "it is not (knowable)", would have contained such an empty term-complex, if it were straight-forwardly analyzed in its logical form : it has the absence of knowability.

It should be noted in this connection that, according to the Navya-nyāya theory of inference, an inference (as an effect, i.e., *kārya*) must be preconditioned by what Navya-nyāya calls *pakṣatā*.[1] The condition of *pakṣatā*, according to the view of the old Nyāya, involves in the presence of a doubt or uncertainty which

[1]MAṆIKAṆTHA [1953] pp. 109-115 ; and GAṄGEŚA [1926] pp. 1079-1176.

should be expressed in the form "perhaps the subject possesses the probandum, perhaps it does not". This postulate is based upon the simple fact that we do not infer something which we already know with certainty unless we wish to prove it again. Now, if inference of an everpresent property like knowability has to be an actual event, it should be pre-conditioned by an uncertainty of the form described above. Thus, the statememt which expresses this uncertainty or doubt must be a meaningful statement so that the required doubt (*saṃśaya*) may, in fact, arise. Gaṅgeśa pointed out that when the second part of the statement expressing doubt is interpreted as (5) above, we can retain its meaningfulness and avoid using empty terms that refer to nothing.[1]

While studying Indian logic, scholars will find themselves concerned with issues of two different kinds. The first are those problems which are bounded by the Indian tradition itself, that is, those which arise out of the peculiar yet rich tradition of India's scholastic past. They are partly conditioned by the Sanskrit language and partly by the fundamental concepts and philosophical attitudes that Indian logicians inherited. The second set of problems which we face here could be called universal. They are, in essence, the very same problems faced by the Western tradition, though often, because of the parochial and tradition-bound interest of both sides, this fact has been either ignored or badly misunderstood.

2.5 : Inference and Concomitance (Vyāpti)

With the advent of Navya-nyāya methodology, the notion of invariable concomitance or pervasion (*vyāpti*) became increasingly the centre of interest of most Naiyāyikas in India. Even before the time of Gaṅgeśa, there were numerous definitions of pervasion offered by different writers, the difference of one definition from the other being at times very subtle and theory-bound and

[1]In the above, I have chosen the term "absentee" and "absenteehood" for *pratiyogin* and *pratiyogitā*, instead of "counterpositive" and "counterpositive$_1$" used by D.H.H. Ingalls. I have followed Prof. Ingalls in my earlier writings. But recently, a suggestion from a former student of mine, Dr. Arindam Chakrabarti (see his Oxford thesis, *Our Talk About Non-existents*, 1982) has persuaded me to accept this new terminology.

at other times trivial. Even a cursory glance at Gaṅgeśa's text (he notes as many as twenty-one definitions all of which he rejects for some reason or other, and then goes on to give seven or eight more definitions each of which he seems to accept) will convince one how much interest was created regarding the explication of the concept of pervasion. This interest continued even after Gaṅgeśa with much gusto, and as a result, we find numerous commentaries and sub-commentaries written particularly upon this portion of Gaṅgeśa's text. It is no wonder, therefore, that in the traditional seminaries of India today a beginner in Navya-nyāya usually starts with one or two sub-commentaries on some subsection of the Vyāpti section of Gaṅgeśa. Why do we find this rather unusual interest in the definition of this concept among the Indian logicians? The history of logic in India had its own unique nature of development. A brief review may be enlightening.[1]

Early attempts to study the inferential relation can be found in the Vaiśeṣika sutras 3.1.8, and 9.18[2] as well as in the Sāṃkhya school (viz., *Ṣaṣṭitantra*). The former speaks of four types of inferential relation beginning with causal relation (in the Vaiśeṣika sense of the term 'cause'), while the Sāṃkhya speaks of seven types of relation beginning with part and whole (*mātrāmātrikabhāva*).[3] It was felt at the time of Praśastapāda and Dignāga that this type of classification was not exhaustive or could not have been so.[4]

Kumārila used the term *vyāpti* 'pervasion' for the inferential relation and tried to develop a sort of logic based upon the relation of class inclusion and extension of terms. The pervaded (*vyāpya*), i.e., the middle term, is either co-extensive with (*sama*) or included in (*nyūna*) the extension of the pervader (*vyāpaka*), i.e., the major term. Inductive generalization, according to Kumārila, is based upon multiplication of empirical evidence,

[1]For a brief outline of the relevant history, see § 2.2 before.

[2]See *Vaiśeṣika-sūtra of Kaṇāda* (with the Commentary of Candrānanda), ed : Muni Śrī Jambuvijavaji, Baroda, 1961.

[3]Quoted by Vācaspati Miśra in *Nyāya-vārttikatātparya-ṭīkā*, ed : Rajeswara Sastri Dravid, Benares, 1925, p. 165.

[4]See *Praśastapāda-bhāṣya*, Varanasi, 1963, pp. 503-505.

and an undiscovered or unnoticed 'associate condition' (*upādhi*) may falsify the supposed generalization.[1]

Dharmakīrti provided a much neater scheme for classifying pervasion. Pervasion or inferential relation may be based upon identity relation, which is actually a relation of class inclusion (viz., it is a plant, because it is an ivy). This is called identity, because the two terms here refer to the same thing. Pervasion may also be based upon causal relation, which should be an inseparable relation (effect being inseparably connected with its cause) between two different entities (viz., there is fire there, because there is smoke). In fact, in the former case we get what we may call today an analytic judgment as our major premise, the whole argument taking purely a deductive character. In the latter case we get a synthetic judgment (in some sense) as our major premise which combines two different entities through causal relation. Whether Dharmakīrti envisioned a real distinction similar to the one that we make today between analytic and synthetic propositions is however very difficult to say. The matter is not easily decidable. Dharmakīrti also noted various other types of inseparable relation, which were, in essence, ramifications of these two major relations combined with negation and contradiction.[2]

This neat scheme of Dharmakīrti was severely criticized by the Naiyāyikas as being insufficient on obvious grounds.[3] Some very common forms of inference (e.g., inference of sunrise tomorrow from today's sunrise) can hardly be assimilated under this neat scheme. Trilocana, the Naiyāyika, thought it proper to define pervasion as the *natural* (*svābhāvika*) relation. A *natural* relation is explicated as an 'unconditional' relation (*anaupādhika*), a

[1] *Mīmāṃsā-śloka-vārttika*, ed : Rama Sastri Tailanga Manavalli, Benares : Chowkhamba, 1898, verses 4-6, of *Anumāna-pariccheda*.

[2] See *Nyāya-bindu*, ed : Chandrasekhara Sastri, Benares, 1954, chap, 2 and 3. In an earlier paper, I suggested that Dharmakīrti's distinction of *tādātmya* and *tadutpatti* may be compared with the analytic-synthetic distinction in the Western tradition. E. Steinkellner disagreed with me on this point. See his "On the Interpretation of the *Svabhava*-hetuḥ," *WZKSO* 18 (1974) pp. 117-129. While I have modified my view on this issue due to his criticism, I still believe that there exists a tension in Dharmakīrti's system here.

[3] See Vācaspati Miśra, *op. cit.*, pp. 158-164. See also Śrīdhara's *Nyāya-kandalī* (comm. on *Praśastapādabhāṣya*, *op. cit.*), pp. 492-502.

relation which is uncontaminated by any 'associate condition' *upādhi*.[1] Udayana favoured a modified version of unconditionality as a definition of pervasion.[2] Vallabha registered a note of caution. For him, pervasion means accompaniment of all the cases of middle term with the major term. The differentiating mark (*lakṣaṇa*) of pervasion relation is, however, the absence of *upādhi* 'associate condition.' An 'associate condition' is defined, according to Vallabha, as the property which accompanies all cases of the major term i.e., what is to be inferred (*sādhya*), but only some cases of the middle term i.e., the *hetu* or the 'reason'.[3]

By the time Navya-nyāya method was developing and greater attention was being paid to the precise formulation of the definition of different concepts, there were several alternative definitions of the concept of pervasion as well as several alternative formulations of the definition of *upādhi* 'associate condition' (which was well recognized by this time as a negative mark of pervasion). Thus, Maṇikaṇṭha Miśra (who preceded Gaṅgeśa) mentioned as many as eleven different definitions of pervasion, each of which was rejected by him on various grounds. He accepted what seems to be a modification of his eleventh definition.[4]

Gaṅgeśa's twenty-nine different formulations of the definition of pervasion (twenty-one of which being unacceptable and eight being acceptable to Gaṅgeśa) were largely based upon Maṇikaṇṭha's and Śaśadhara's discussions of pervasion.[5] The following are the eleven alternative definitions of pervasion found in Maṇikaṇṭha: Pervasion 1. is 'any kind of relation' *sambandha-mātra* (view of Bhūṣaṇakāra = Bhāsarvajña ?), 2. 'non-deviation' *avyabhicaritatva* (found in Śrīdhara's *Nyāya-kandalī* and in many other places), 3. 'the property of not occurring without (the other)' *avinābhāva* (Dignāga, Praśastapāda and many others), 4. 'natural relation' *svābhāvikasambandha*

[1]Trilocana's view has been quoted by Jñānaśrīmitra. See an illuminating discussion of this point in Gerhard Oberhammer's article "Der *Svābhāvika-sambandha*, ein Geschichtlicher beitrag zur Nyāya-logik," *Wiener Zeitschrift für die Kunde Süd-und Ostasiens, Band VIII*, 1964, pp. 131-181.

[2]*Ātmatattva-viveka*, ed : Dhundhiraja Sastri, Benares : Chowkhamba, 1940, p. 403.

[3]*Nyāyalīlāvatī*, ed : Dhundhiraja Sastri, Benares : Chowkhamba, 1934, pp. 496-502.

[4]*Nyāya-ratna*, ed: V. Subrahmanya Sastri and V. Krishnamacharya, Madras, 1953, p. 42-61.

[5]Śaśadhara's *Nyāya-siddhānta-dīpa* was printed in *The Pandit* journal. A new edition of this book has been prepared by the present author.

(Trilocana), 5. 'relation of the effect to its efficient cause' *nimitta-naimittika-bhāva* (the Sāṃkhya view ?), 6. 'identity' *tādātmya* (Dharmakīrti), 7. 'relation of the qualifier to the qualified' *viśiṣṭa-vaiśiṣṭya* (?), 8. 'the property of being the counter-positive of an absence which (absence) is pervasive of the absence of the major term' *sādhyābhāva-vyāpakābhāva-pratiyogitva*, 9. 'accompaniment of all cases of one term with the other term' *kārtsnyena sādhana-sādhya-sahabhāva* (Vallabha), 10. 'unconditional relation' *anaupādhikasambandha* (Udayana and others), 11. 'co-occurrence with something that is never the counter-positive of a constant absence which (absence) is co-occurrent with the other term (the *hetu*) in the same locus' *sādhanatvābhimatasamānādhikaraṇātyantābhāvapratiyogisāmānādhikaraṇya*.

Gaṅgeśa first takes the second definition of Maṇikaṇṭha's list, viz., non-deviation, and gives seven different formulations of this definition and rejects each of them mainly on the ground that it fails to include the pervasion relation existing between two 'ever-present' *kevalānvayin* properties, such as knowability and namability.[1] An incidental discussion is introduced here on the point whether the absence of 'unactualized possible' entities could be regarded as an ever-present property or not. I have noted the question already in the previous discussion. I shall discuss certain related issues in the last chapter (§ 5.4 and § 5. 5). This is followed by four different ramifications of the definition of pervasion, some of which can be located in Śaśadhara's *Nyāyasiddhāntadīpa*. Then Gaṅgeśa examines two different formulations of the notion of unconditionality (definition 10 of Maṇikaṇṭha) and four different formulations of the pervasion relation by making use of a universal quantifier (*kṛtsna, yāvat;* definition 9 above). Next we find brief mention of definition 4 (*svābhāvika-sambandha*), definition 3 (*avinābhāva*) and definition 1 (*sambandha-mātra*) from the above list.

The *siddhānta-lakṣaṇa*, i.e., the definition acceptable to Gaṅgeśa, is only a modified version of Maṇikaṇṭha's final definition. This formulation takes care of the cases where the major term is such that both its absence and its presence can be truly asserted of the same locus (i.e., *avyāpyavṛtti-sādhyaka*). A similar definition is also found in the list of Śaśadhara. This definition

[1]See the previous section §2-4.

does not use any universal quantifier, but makes use of a generic absence, i.e., an absence whose absentee is qualified by a generic property. Gaṅgeśa inserts here a discussion to show how and why the generic absence must be regarded as separate from the integration of specific absences. Gaṅgeśa next offers three different formulations of the definition of pervasion where no use of the notion of generic absence is made. Gaṅgeśa finally accepts definition 10, i.e., 'unconditionality' as pervasion, as an alternative definition, and gives four acceptable formulations of this definition. This is followed by three different formulations of the notion of 'associate condition' *upādhi*.[1]

§ 2.6 : Double Negation in Navya-Nyāya

The phrase 'double negation' immediately calls to our mind what is now known in the Western logical tradition as the classical law of double negation. This law is actually derivable from the law of excluded middle and the law of non-contradiction, and it is maintained as a law under the 'classical' or standard account of negation in logic.[2] The logical law of double negation, however, attracts more attention than usual when a proposal is made to suspend or restrict it. Thus, it is well-known in Western logic that a non-classical or non-standard account of negation should be proposed for constructing non-standard multiple-valued logical systems. W. V. Quine has called them 'deviant logics' and described the non-classical negation as a proposal for the 'mutilation' of our standard sense of negation.[3]

In the context of Indian logic, the phrase 'double negation' is, however, reminiscent of an important and very controversial

[1]An analysis of Gaṅgeśa's *Vyāpti* section has been done in English by C. Geokoop in his *The Logic of Invariable Concomitance in the Tattva-cintamani*. This book, inspite of all its defects, should be read and a better analysis in modern terms should be undertaken as a long-term project by scholars today. On *upādhi*, 'associate condition' see M. K. Gangopadhyay, "The Concept of Upādhi in Nyāya Logic," *Journal of Indian Philosophy*. 1, 1971, pp. 146-66.

[2]The ordinary law that is expressed in Latin as *duplex negatio affirmat* has its counterpart in Sanskrit, *dvābhyām niṣedhābhyām prakṛty-arthadārḍhya-bodhanam*, which means that two negatives lead to a forceful assertion of the original thought. See Nāgeśa's *Paramalaghumañjūṣā*, p. 71.

[3]See *Philosophy of Logic*, Ch. 7. We have touched upon this point in § 2.3.

doctrine of Dignāga—the *anyāpoha* 'the exclusion of the contrary', as a possible nominalistic substitute for universals that are reified as meanings of general terms. Dignāga's proposal was met with scepticism in opposite camps, and the followers of Dignāga apparently complicated the issue by proposing various tentative solutions to the problem. Perhaps, the relevant problem cannot be solved adequately unless one proposes (as Prof. H. Herzberger has done)[1] another non-standard account of negation. My own feeling is that to make sense of the use of negation in Buddhist philosophy in general, one needs to venture outside the perspective of the standard notion of negation. This is another way by which, I believe, one can provide an alternative interpretation of the so-called Mādhyamika tetralemma (*catuṣkoṭi*).[2]

In Navya-nyāya the problem of 'double negation' arises in an entirely different context. The treatment of the problem is, as may easily be understood, essentially conditioned by the peculiar Nyāya doctrine of negation. It is obvious that the Navya-nyāya writers were not at all perturbed by the limitations of the two-valued logic, nor did they worry much about the so-called Vedāntic 'challenge' to the law of excluded middle. Moreover, the Buddhist *apoha* theory was not directly relevant to the problem of 'double negation' in Navya-nyāya. There is, however, a minor detail in the Navya-nyāya theory of double negation, where one might detect a reaction to the *apoha* doctrine of the Buddhist. I shall mention it in a note towards the end of this section.[3]

Navya-nyāya, as I have shown elsewhere,[4] is not in favour of the affirmative-negative dichotomy of propositions. Instead, it speaks of contradictory pairs of qualifiers, viz., blue-colour and the absence of blue-colour, or pot (i.e., pot-presence) and pot-absence. Thus, the contradictory pairs of propositions (or

[1]See 'Double Negation in Buddhist Logic,' *Journal of Indian Philosophy* 3 (1975), pp. 1-16.

[2]For example, I have argued once that the Mādhyamika advocates an extreme form of negation where we have only a *denial* without any 'commitment' aspect. The commitment aspect of a denial is usually derived from its presupposition. See *Epistemology, Logic and Grammar in Indian Philosophical Analysis*, p. 164.

[3]See note 1, p. 153.

[4]See Matilal, *The Navya-nyāya Doctrine of Negation*, pp. 92-3. See also next section § 2.7.

qualificative cognitions, to use strictly the Nyāya terminology) are formulated with such contradictory pairs of qualifiers. But each qualificative cognition is seen as attributing (instead of affirming or denying) some property or qualifier to a qualificand.

Nyāya admits mainly two kinds of negation, relational absence and difference, and this twofold division is rather intriguing.[1] Both are called *abhāva* or absence in Nyāya, and Professor Ingalls, accordingly, translated them as constant absence (*atyantābhāva*) and mutual absence (*anyonyābhāva*). For the sake of convenience I shall use 'absence' for the former and 'difference' for the latter. Again, for convenience, I will use '$\sim$' for the first and '—' for the second. The twofold division of negation seems to be based upon an implicitly maintained[2] twofold division of propositions : viz., those expressing qualification and those expressing identity. In the first case, a qualifier qualifies a qualificand and by negating it we get an absence of that qualifier (which is regarded as another qualifier) qualifying the same qualificand.

For example,

"The ground is qualified by pot-presence,"

and its negation,

"The g. is qualified by pot-absence."

But in the second case, two singular terms are joined by the 'is' of identity and by negating it we get a proposition of the form '$a \neq b$'. The typical Nyāya example is: "(*A* or the) pot$\neq$(*a* or the) cloth." This is an example of negation being construed as *difference*. Nyāya, however, will also recommend rephrasing of this sentence so that we shall get a proposition wherein cloth-difference will appear as the qualifier qualifying the qualificand pot :

"The pot is qualified by cloth-difference."

[1]To simplify matters for discussion, I shall ignore the four-fold division of negation, viz., prior absence, destruction, constant absence and difference.

[2]I use the term 'implicitly' here because the two-fold division of propositions based on the two-fold interpretation of the copula 'is' has no explicit parallel in Navya-nyāya. The problem did not arise explicitly probably because the copula is never explicitly used in Sanskrit. Nevertheless, the point about attribution and identity arose in connection with the Nyāya analysis of negative propositions.

It is easy to see that absence of blue-colour and difference from blue things are closely related properties. For, the absence of blue-colour qualifies only the non-blue things, and since each non-blue thing is different from what is blue, difference-from-blue-things will qualify the same non-blue things. In Nyāya terminology, however, the two negations, absence of blue-colour and difference-from-blue-things, are as properties, *samaniyata* 'equi-locatable' (see Section § 2.8). In other words, the class of loci of one is equal to the class of loci of the other. From this, Nyāya generalizes :

> The absence of any property is equi-locatable with the difference-from-the-possessor-of-that-property: $\sim x$ is equilocatable with – (the possessor of x).

The Naiyāyikas generally agree that because of this equi-locatability of the above two properties one should be held as equivalent to the other. This equivalence should not be confused with equality or identity, but should be seen as a relation of mutual implication. In other words, presence of one in a locus implies the presence of the other, and vice versa. Some Naiyāyikas will be in favour of identifying the absence of x with what is called the difference from the possessor of x just because of their equi-locatability. This obviously amounts to an 'extensional' interpretation of the (negative) properties. But the prevailing orthodox view was against such a move.

Udayana, as we have already noted, formulated the law of double negation as:[1]

> "The negation of the negation of x is identical with x."

In the same context, Udayana has insisted that one cannot negate what is not there, nor can the locus of the negative property (absence or difference) be a fiction. In other words, both the *pratiyogin* or negatum and the *anuyogin* or the locus which the negative property is supposed to qualify should be real entities. This is rather an important feature of the Nyāya conception of negation, and we have already discussed it.[2] Let us concentrate on the so-called double negation.

Navya-nyāya gives the following versions of double negation :

[1]See *Nyāyakusumāñjali*, Ch. III, verse 2cd.
[2]See section § 2.1, § 2.2.

I The absence of the absence of $x=x$; *svātyantābhāvātyantābhāvasya svātmakatvam*; $\sim\sim x=x$.

II The difference from what is different from that which is delimited by $x=x$; *svāvacchinnabhinnabhedasya svātmakatvam.*

III The difference from what has absence of $x=x$; *svābhāvavadbhedasya svātmakatvam.*

I shall discuss them one by one.

The first version is almost universally accepted, and it is a very well-known formulation in Navya-nyāya. I say 'almost', for there was some controversy over it, which Professer Ingalls has nicely described in his book.[1] Most authors accept I as a valid interpretation of Udayana's comment on double negation. I is, however, justified as follows : Whatever may be the locus of x must also be the locus of the absence of the absence of x, for as long as x is known to be there x-absence is not cognized to be there, and, hence, the following statement will always hold true 'there is absence of the absence of x there.' Note that this simply amounts to the class of loci of x being identical with the class of loci of $\sim\sim x$. Thus, from the equi-locatability of x with $\sim\sim x$ we can derive their equivalence, and this equivalence can be thought of as a relation of mutual implication in the sense I have already noted above. But remember, in the previous case, the prevailing Navya-nyāya opinion refused to equate the two properties; absence of x and difference from what possesses x, were treated as distinct. In the present case, however, the prevailing opinion is in favour of identification of x with $\sim\sim x$. It sounds quite anomalous. Raghunātha, however, in his intensionalist vein, argued against the identification of x with $\sim\sim x$. For, he thought, the notion of negation conveyed by the second can never be conveyed by the first, and, hence, it is difficult to think of them as non-distinct. Raghunātha's point may have the following implication. There is cognitive difference between how "x" and "$\sim\sim x$" present their referents. In other words, the mode of presentation of the property by "x" varies from that of by "$\sim\sim x$". The first presents it *as* qualified by x-ness, while the second *as* qualified by a complex of properties of which not only x-ness is an element but also some negative facts, absences and

[1]See Ingalls, p. 68-9.

absenteehood, are elements. Hence, Raghunātha says, we cannot strictly equate them. I would ask modern Fregean philosophers to judge whether Raghunātha was talking about what we call today Fregean Sinn.

The second version, II, has not been universally accepted in Navya-nyāya. Here to simplify, we may replace "that which is delimited by *x*" by "that which has *x* or is qualified by *x*", or only "the possessor of *x*". Using '—' for 'difference' and 'Locus' for 'possessor or that which possesses', we can represent the complicated expression as follows :

(parentheses will be used to indicate the scope)

II. "—(Locus of (—(Locus of x))) = x."

The argument that is usually given to justify II is exactly similar to that for I above : Wherever *x* is present it is true to say of that locus that it is NOT DIFFERENT from what is delimited by *x*. In other words, the two properties are equi-locatable. And we have already seen that although equi-locatability is not a sufficient condition for identity, it is at least a necessary one. We shall presently see the view of those who are sceptical about II.

The third version is equally met with scepticism. It can be re-written, using the convention of the previous paragraph, as follows:

III. "—(Locus of($\sim x$)) = x."

The reason for justifying III is also similar to that for justifying II or I : Wherever *x* is present as a property, it is true to say of that locus that it is DIFFERENT from what has absence of *x*. So, we have, as before, only a necessary condition for identity, not a sufficient one.

Those who hesitate to accept II or III not only point out that equi-locatability is not a sufficient condition but also formulate some counter-examples where even the equi-locatability condition will not be fulfilled. The major problem arises in connection with those properties which are called *avyāpyavṛtti* 'non-pervasive.' See § 2.3 above.

Contact or contact-with-a-particular-monkey is said to be a typical example of this kind of properties. Such a property (I shall represent it by '*c*') is, by definition, co-occurrent with its absence in the same locus. In other words, as long as one can say that a tree is in contact with a monkey at its top but not so at the

bottom, Nyāya will claim in such cases that the tree is qualified by *c* as well as by the absence of *c*. Now, if '*c*' is substituted for '*x*' in III we get an obvious falsehood. For, the same tree is also regarded as a locus of the absence of *c* (by Nyāya) and, hence, "difference-from-the-tree" cannot possibly qualify the same tree which is qualified by *c*. We cannot say of the tree that this is NOT what possesses the absence of *c*. One may wonder that II can possibly be salvaged even when one uses '*c*' for '*x*'. For, it is quite possible to say of the tree that it is NOT DIFFERENT from what has *c*. But Gadādhara in many places disallowed the identification of *c* with the DIFFERENCE from what is different from the locus of *c*. For, it is argued, although the tree is qualified by *c* (so that it is a locus of *c*) it is not (known to be) DELIMITED by *c*. (Roughly, a delimiting property has to be pervasively occurrent, *not* non-pervasively occurrent.) Thus, the original version of II uses the notion of delimitation. Hence, it is concluded that both II and III fail to be satisfied by a non-pervasive property, and this should be regarded as a sufficient argument against their acceptance as rules of identification, i.e., as versions of the law of double negation (in Udayana's sense, of course).

Some might have the following rejoinder : The above counter-examples may require us to narrow down the scope of application of II and III; they may not force us to reject them totally. Thus, one may hold without embarrassment that as long as we speak in terms of pervasive properties, II and III are acceptable. If, however, such delimitation of the scope of application is not allowed, then, so the argument goes, it would be difficult to maintain even I as acceptable. For, using the Nyāya ontological scheme, it is not hard to find a value of *x* which will render the status of the universal acceptability of I dubious. For example, *gagana* or the sky, in Nyāya ontology, is regarded as a non-occurrent entity. (In other words, while most entities qualify or, are occurrent in, some entity or other, the sky does not qualify, or is not occurrent in anything.) Now, if we substitute 'the sky' for '*x*' in I, we shall face a peculiar Nyāya problem, which will render I invalid ! To wit : since the sky is not occurent in anything, its absence will be occurrent in everything including itself (for, as long as the sky is not occurrent in itself, the absence of the sky can be said to be occurrent in the sky). Now, since the absence of the sky is occurrent in everything, the absence

of the absence of the sky will not be occurrent in anything. This amounts, in Nyāya theory, to saying that the absence of the absence of the sky is fictitious! Therefore, I does not work in such cases (Q.E.D.)!

In other words, if something is occurrent in everything including itself, it is an 'ever-present' property (in the technical sense defined by Nyāya, see § 2.4 above), and absence of such a property cannot be instantiated.

The point of this rejoinder, stated simply, is this. If we reject II and III because of their lack of universality, we should be prepared to reject I also on the same ground. But many Navya-nyāya authors, such as Mathurānātha, reject this rejoinder and maintain I as an acceptable version of Udayana's comment on double negation. They also stipulate that the absence of the absence of the sky is identifiable with the sky, and hence I has universal application. In fact, if we accept the notion of null-class or empty class (of modern Mathematical logic),—a notion that is not easily accepted by Navya-nyāya—then the above stipulation is easily defensible. For remember, the sameness of the class of the loci of one with that of the other was a necessary condition for the equality of the two properties in the given context. Thus, one can say that both the sky and the absence of the absence of the sky are occurrent in such loci as are members of the null-class. It should also be noted that as long as the absence of the absence of the sky can be identified with the sky, a real entity, the orthodox Nyāya will never accept the absence of the absence of the sky as fictitious !

Let me conclude after discussing an incidental question which is often asked in this connection. If absence and difference are the two main kinds of negation, then one may expect the following combinations of them :

(i) $\sim \sim x$ (using '$\sim$' for 'absence').
(ii) $\sim — x$ ('—' for 'difference').
(iii) $— — x$.
(iv) $— \sim x$.

Navya-nyāya authors generally discuss (i) and (ii) but ignore (iii) and (iv). I have already discussed the meaning of combination (i). There is a general agreement among Naiyāyikas regarding the status of (ii), viz., absence of the difference from x is identifiable

with an inseparable property of x, i.e., x-ness (may be, the essential property of x).[1] Ingalls has given the Nyāya reason for this identification,[2] and, therefore, I shall not go into it here. One may only add that the argument in its esence is bassed on the condition of equi-locatability as before. This identification, however, leads to a difficulty which has already been discussed by Ingalls.[3] It may be remarked that if we use suitable parentheses to clarify ambiguity and keep our rule I operating, we would not face the anomaly which apparently Mathurānātha had to face (and which Ingalls, accordingly, pointed out). For example, we can write :

(a) $\sim(\sim -x) = \sim x_1$ (where 'x_1' stands for 'x-ness').
(b) $\sim\sim(-x) = -x$.

Note that the parentheses mark out the distinction between the left-hand side of (a) and that of (b). Thus, abbreviating 'absentee' or 'negatum' (*pratiyogin*) by 'd' we get :

(c) d of $\sim(\sim -x) = \sim -x = x_1$.

Now, if we stipulate that rule I should be first applied to cancel the uninterrupted succession of two absences before we apply the operation with d, we can easily obtain :

(d) d of $\sim\sim(-x) = d$ of $(-x) = x$.

Thus, we can avoid the undesirable consequence of accepting "a double nature" (*ubhaya-rūpatva*) of $\sim -x$, that of x and that of x_1.[4]

Why does Navya-nyāya ignore a discussion of (iii) and (iv)? The reason will be obvious if we think about the meanings of these two combinations. Suppose, 'blue' (i.e., 'blue colour') is

[1]This is an interesting result from the point of view of the Buddhist *apoha* doctrine. Under one interpretation, '*agovyāvṛtti*' means the absence of the difference from the cow, and this is exactly what the Buddhist would like to substitute for the universal cowness. Thus, instead of saying 'cow' means cowness, one may say that 'cow' means the absence of the cow-difference.

[2]See Ingalls, p. 149; Mathurānātha uses this principle and says, "*svāvacchinna-bhinnabhedarūpasya....*"

[3]Ingalls, p. 71-2.

[4]While Mathurānātha admitted that sometimes $\sim -x=x$ and sometime $\sim -x=x$-ness, he was probably confused about the fact that these two results are different because they are derived in different ways.

substituted for '*x*' in (iii). Now, '−blue' will refer to difference-from blue-colour which is a property shared by all and only non-blue things. Let us call this property *eulb*.[1] Now, there are many other properties (and things) besides *eulb*, and all of them will belong to the class defined by the property difference-from-eulb, that we may express by '—eulb' (i.e., by '− —blue'). In other words, the last property cannot be a unique property of only blue things. Hence, it cannot be identified with blue, for, the necessary condition, equi-locatability, is not satisfied. Similarly, it can be shown that 'difference from the absence of blue' (derived from (iv)) expresses a property which is shared by everything except the absence of blue. Hence, from Nyāya point of view, these two properties are not very interesting.

Let me emphasize that the above has not been an exercise in what may be called 'comparative logic'. My attempt here has been an humbler one. I have tried to understand (myself) and explain some of the issues which Navya-nyāya (and by the same token, Indian logic in general) thought important, interesting and relevant to their way of philosophizing. In my exposition I have made use of certain modern (logical) terms. Some of these terms have acquired very specialized and technical meanings in the writings of modern logicians. I have, however, taken some liberty with these terms (such as double negation and equivalence) for the purpose of my exposition and translation. I think their intended meanings will be clear from the context of my discussion, and I sincerely hope that such uses will at least help our understanding of the problems of Indian logic.

[1]The idea of 'eulb' is from a comment of A. J. Ayer, 'Negation', p. 51-52 (See his *Philosophical Essays*, 1963 edn.) One note for caution : Taking for granted the object/predicate distinction, as is normal in first order logic, and using '*F*' for 'pot', we have to say that to say that x is $-F$ (in our sense of '−') is *not* to say that $(y)\ (Fy \supset y \neq x)$. Rather to say that x is—F is to say that $x = \{y : \text{NOT } Fy\}$. Note that the sense of '$-F$' is distinct from the sense of 'Not *F*' or 'is Not F' as used normally in predicate calculus. Thus it is that if eulb is taken to be the class of non-blue things, then things (classes, individuals, or properties) that are distinct from eulb will form the class of −eulb (or − −blue), i.e., to say that the —eulb is the class of things different from the class of non-blue things.

This note owes its origin to a criticism of Mr. Christopher Peacocke of All Souls College, Oxford, who very kindly read my typescript, and whom I wish to thank here.

On the other hand, I deplore the view that maintains that Indian logic is too exotic and too remote from what we understand by logic today to be relevant to our modern style of philosophizing. For, I firmly believe that the study of Indian logic is almost as much relevant today as the study of Aristotle, Plato, and the Scholastics. These will certainly help us to gain insight into the problems of the philosophy of logic. It is also important to understand the exact nature of the questions the Indian logicians asked themselves, and thus to ask ourselves why they fail to solve certain problems satisfactorily. I wish to end with a quotation from Professor Ingalls on this issue.[1]

> There are striking similarities between Western symbolic logic and Navya-nyāya. They deal with similar problems and are often guided by a similar spirit of inquiry... (but) the complexities of the one tradition are not readily translatable into the other. For all the similarities of subject-matter and spirit, the structures of symbolic logic and Navya-nyāya are radically different. They differ not only as wholes; the difference permeates each detail of the architecture.

Let me add also that such details and their differences are always philosophically interesting and certainly important.

§2.7 : The 'Difference' of Difference

Navya-nyāya accepts, as I have already noted, two types of negation : absence and difference. This means that the meaning of the negative particle NAÑ is construed, depending upon the context, either as implying the absence of a property in a certain thing or a place, or as denial of identity between two objects. This distinction reflects, as I have noted in the previous section, the Navya-nyāya understanding of the underlying difference between two types of cognitive event. What is grasped by a cognitive event is usually expressed in a sentence. But the sentence cannot fully represent the underlying structure as well as the force of the cognitive event. In other words, some parts of what we may call the structured content of the cognitive event are not directly visible in its conventional linguistic representation, i.e., the sentence, although it is only

[1]See *Preface* to D.C. Guha's book, *Navya-nyāya system of Logic*, p. xviii.

the sentence that we have accessible to us for our analysis study, introspection, and eventual reconstruction of the structure of the initial cognitive event. For, these events, as the Nyāya insists, are fleeting states, but to the extent they are verbalizable they leave their imprints on the language.

In analysing a cognitive event, Navya-nyāya invariably analyses the sentence that is supposed to verbalize it—a method that I have been following here. In fact, Navya-nyāya derives the structure of the cognitive event involved, from the verbal, i.e., linguistic representaion of it. Consider :

(1) "This is white."
(2) "This is a cat."

For the sake of simplicity, we are dealing with simple, declarative sentences. According to Navya-nyāya, (1) represents a cognitive event which identifies an object x as "this" and ascribes a property (called its qualifier) to it, viz., the property of having a particular white. The object so identified is called the qualificand in that cognition in relation to the property ascribed, i.e., the qualifier. Even the object x is not grasped by the cognitive event *as such* (without qualification), as the expression "this" indicates to the contrary. Navya-nyāya says that "this" has a sense, viz., that of being present in front of the cognizer, and, hence, the object x is also qualified by this sense. For simplicity again, I shall ignore this and other complexities. The cognitive event connected with (1) would have the following structure, according to Navya-nyāya.

C1. The qualificand referred to by "this" is qualified by the property of having a particular white texture.

Accordingly, (2) has :

C2. The qualificand referred to by "this" is qualified by the property of being a cat.

But (2), as it stands, is ambiguous, for it can also represent another cognitive event having a different structure.

C12. The qualificand or the object referred to by "this" is *identified* with the qualificand cat that is qualified by the property of being a cat.

The linguistic representations of both C2 and C12 will be the

same, but they are two distinct cognitive events. (In modern terminology, one may say that the above-mentioned ambiguity of (2) is reflected, at least in part, in the suggested alternative ways of symbolizing the structure of (2), e.g., "Fa" or "$a=b$"). A Navya-nyāya theory insists that a *śābdabobha* or a hearer's cognition or knowledge of (2) would always be like C12, while the speaker's cognition could be either (C2 or C12). (see also § 5.4 and § 5.5).

In its affirmative form, the ambiguity of (2) is seldom resolved. But, as soon as negation is involved, Navya-nyāya resolves the ambiguity by talking about two types of negation, absence and difference, which the cognitive episode concerned is said to have taken into account.

(3) "This is not white."
(4) "This is not a cat."

If we follow the previous model of C1 and C2, we shall have cognitive events having the following structures :

C3. The qualificand, etc., is qualified by the lack of being white, i.e., absence of being white.

C4. The qualificand, etc., is qualified by the absence of the property of being a cat.

But there is a strong feeling in the utterance of (4), that the cognitive event involved is given by.

C14. The object referred to by "this" is *different from*, i.e., *non-identical with*, the object or qualificand cat that is qualified by the property of being a cat.

C4 recognizes an absence as the qualifier (i.e., the main qualifier) while C14 recognizes a difference as the main qualifier. Very roughly this amounts to saying that C4 involves a denial of a purported relation (other than identity) between the object and the property concerned, while C14 involves a denial of the possible relation of identity between the two objects. That is why, Navya-nyāya says that the first involves a relational absence (*saṁsargābhāva*), while the second a difference or (as it is sometimes called) mutual absence (*anyonyābhāva*).

One curious connection between absence and difference, according to Navya-nyāya, is this : Wherever one finds absence of potness, i.e., the property of being a pot, one can find, or

cognize difference from a pot. In other words, whatever lacks potness is also different from a pot and vice versa. Thus, absence of potness and difference from a pot are two distinguishable properties while they occur in the same locus or loci. But when we talk about double or repeated negation, Navya-nyāya uses almost the same criterion to eliminate innumerable negative formulations. Therefore, absence of absence of a pot is identified with a pot, mainly because wherever the first is present the second is present and vice versa. Hence, to avoid unnecessary multiplication of entities it has been said :

"absence of absence of $x = x$."

Using almost similar argument, absence of difference from a pot is identified with potness (i.e., the property of being a pot). The difference from a pot is absent in all and only those things that are pots (a pot cannot be different from itself), and potness is present in all and only these things. All these and related problems have been discussed by D.H.H. Ingalls in his pioneering work on Mathurānātha.[1]

The combination "difference from difference from x" has created an understandable confusion among the modern interpreters of Navya-nyāya. I wish to clear this muddle. First, we should note, Navya-nyāya does not use this combination very frequently, because it does not serve any useful purpose in the discussion of its logical theory. But it certainly raises an ontological issue and, hence, there is a brief reference to this problem in Raghunātha's *Padārthatattvanirūpaṇa* (PTN), which has been translated and commented upon by K.H. Potter.[2] We should further note that the expression "difference from difference from x" is distinct from "different from whatever is different from x." In Sanskrit, one would be expressed as "*ghaṭabheda-bheda*", while the other "*ghaṭabhinnabhinna.*" The second expression clearly refers to the same thing as x. In other words, Navya-nyāya accepts the following identity.

"x = different from whatever is different from x."

But the property expressed by "difference from difference from x" is an entirely different matter, as we shall see below.

[1]Ingalls, p. 68, pp. 71-72.
[2]Potter, p. 68.

In his commentary on the fifth definition of *vyāpti* in the *Vyāpti-pañcaka*, Mathurānātha uses an identity principle that is formulated as follows.[1]

S1. "svāvacchinnabhinnabheda = sva".

In literal English this would be

E1. "Difference from whatever is different from anything that has x or is delimited by $x = x$."

This is certainly not what is stated as

"The mutual absence of the mutual absence of $x = x$"
or "The difference from difference from $x = x$."

Let me explain E1. There are two different principles implicit in the acceptance of E1. The first principle is non-problematical, for, it is usually assumed in modern class logic. Two classes are held to be identical if and only if their members are so. In symbols, class α and class β are identical if the following condition holds :

$(x)\ (x\varepsilon\alpha \equiv x\varepsilon\beta)$.

It is also part of the theory that in a closed universe class γ, the complement of the complement α, is identical with α.

But, Navya-nyāya accepts, over and above this, a second principle with some reservations. It postulates that if there is an *essential* property belonging to all and only members of a class α and if there is another property belonging to all and only members of class β, then those two properties are also identical, provided the classes are identical.

Now, we can proceed to explain E1. Suppose, 'x' is substituted by 'blue-colour.' Then the class of all and only blue things is given by the description "anything that is delimited by blue-colour".

Let us call this class α. Now, the class of whatever is different from blue things is given by the complement of α. At the next step, let us define class β as the class of anything that is different from whatever is different from blue things. Now, it is clear from these definitions that both α and β will have as members all and only blue things, and, hence, they are identical. In fact,

[1]Ingalls, pp. 149-50

β is the complement of the complement of α. So far we have said nothing against what is very common in the logic of classes. Our proposition so far can be stated as follows :

"All and only blue things are different from whatever is different from anything blue."

The second principle which Navya-nyāya implicitly accepts, derives the following.

Premises : 1. $\alpha = \beta$

2. All and only members of α have the essential property p.

3. All and only members of β have the essential property q.

Therefore 4. $p = q$

What is it that all and only members of α have ? Any member of α is at least essentially blue, and, therefore, it has blue-colour. In other words, 'p' is 'blue colour'. What is it that all and only members of β have ? Any members of β is at least different from whatever is different from anything blue. Therefore, each has what is describable as difference from whatever is different from anything blue. That is, q is such a difference. Therefore,

"difference from whatever is different from anything blue = blue colour. Q.E.D.

Now, I shall turn to a passage from Raghunātha's PTN. Potter in offering his translation of this passage has emended the text, for, he thought, mistakenly I believe, that the author in this passage was talking about the identification of the above kind, viz.,[1]

"x is indentical with what is different from whatever is different from x."

However, as I shall argue here, the text does not need the suggested emendation. The text of Raghunātha (as given in the *Pandit* edition) is translatable as it stands, provided we do not think that the author was talking about the above identity in this passage :

"anyonyābhāvasyānyonyābhāvo bhāvatvam, saṃsargābhāvatvaṃ ca."

Translating "anyonyābhāva" as 'difference' we can say that

[1]Potter, p. 68.

Raghunātha was talking about 'the difference of difference of *x*', and not about 'the difference from whatever is different from anything that has *x*'. We have to understand the problem by introducing, as is customary in Nyāya, the notion of property-locus or superstratum-substratum. Suppose, we are talking about the difference from *a* (= blue-colour). Anything different from *a* would then be the substratum of this difference from *a*. Suppose, we denote this property or superstratum by "*Da*". Then

"*Da* = difference from *a*."

"*Da*" names a property which occurs in everything in the universe except *a*. (A further qualification would be needed, if we do not allow that a property can occur in itself. For, in that case, we have to exclude from the class of loci of *Da* not only *a* but also *Da*. But I shall ignore this complexity here.) Now it is obvious that *Da* is one of the properties of this universe and, hence, different from other properties and other things including *a*. What about the property denoted by "difference from difference-from-*a*", i.e., "difference from *Da*"? Let us denote the second property by "*DDa*". Then

"*DDa* = difference from difference from *a*."

DDa, as before, is said to occur in eveything in the universe except *Da*, but it also occurs in *a*. In other words, *a* is only one of the members of the class of loci of *DDa*.

A problem arises due to what may be called the 'recursive property' of the language. The phrase "difference from" can be added to a word not just once or twice, but indeed innumerable times. Therefore, it is possible to have phrases like "*DDa*" and "*DDDa*" formed indefinitely. Are we supposed to say each time that each such phrase denotes a new, different property of the kind denoted by "*Da*"? In other words, Nyāya accepts the property denoted by "*Da*" as a negative entity included under the category they call *abhāva*. It is to be noted that Navya-nyāya accepts seven types or categories of entities : substance, quality, action, generality, particularity, inherence and abhāva (negation). The first six are grouped under *bhāva* category, i.e., the positive category, which is contrasted with the seventh category called *abhāva* or negative category. The negative category is sub-

divided into two types, absence and difference. We can look upon these categories as classes consisting of individuals or properties (for Navya-nyāya, there is very little difference between the two concepts) as members. Suppose, members of the first six classes (*bhāva* categories) as well as those of the class of absence (=*saṁsargābhāva*) are nameable by the following expressions :

"a_1", "a_2", "a_3" ...... "a_n",......

In that case the members of the class of difference would be nameable by

"Da_1", "Da_2", "Da_3"...... "Da_n"......

Raghunātha says that Navya-nyāya accepts the first group of entities and the second group of entities as well. What about the entity named by "DDa_1"? Would it be a member of the second group? The answer is no. For, the entity denoted by "Da_1" does not fall under the first group. Therefore, by definition, the property named by "DDa_1" cannot fall under the second group. Would it form a separate sub-category of what is called difference. The answer is no, for (a) it is unnecessary and (b) it goes to add innumerable sub-categories to the second group. Therefore, Raghunātha says that the property denoted by "DDa_1" *must* fall under the first group, for, there is no other group left. The first group, as we have already noted, comprises all the positive (*bhāvatva*) and one sub-category of abhāva, i.e., *saṁsargābhāva*.

Raghunātha's text (without the suggested emendation) is translatable, as :

"The difference (mutual absence) of difference is (identical with) the property of being a positive entity (*bhāvatva*) and that of being a relational absence as well. For, there will be infinite regress if we admit it to be (identical with) another difference."

The commentary (in the Pandit edition, p. 56) adds :[1]

"Idaṃ cānyonyābhāvatvāvaccinnasyānyonyābhāvam avalambyoktam ghaṭānyonyābhāvasya tu anyonyābhāvo bhāvatvaṃ

[1]Raghudeva, Comm. On Raghunātha, *The Pandit*, p. 56.

saṃsargābhāvatvaṃ paṭādyanyonyābhāvatvaṃ cety api bodhyam."

I translate :

"This has been said (by Raghunātha) having recourse to the difference from the set of all differences. The difference from the difference-from-a-pot, however, is (identical with) (a) the property of being a positive category, (b) the property of being a relational absence, and (c) the property of being (particular) difference from a cloth etc. This is understood."

Obviously, for each thing *x*, if *x* is a difference (such as, the difference from a pot, the difference from a cloth), then *x* is also DIFFERENT from any positive entity as well as from any relational absence. Suppose, the *d* is defined as the set of all differences :

(d_1, d_2, d_3......d_n ......).

Now, if the difference from all such differences is denoted by "*Dd*", then such a property (the one denoted by "*Dd*") is present in all and only those that are either a positve entity or a relational absence. The property denoted by "*Dd*", therefore, is said to be identical with either the property of being a positive entity or a relational absence. A complexity will arise, if, instead of talking about the difference from all kinds of difference (first order) as above, we talk about the difference from a particular difference (say, difference from a pot $= d_1$). In that case, the second difference, namely, that denoted by "Dd_1", will reside not only in all positive entity and in all relational absences, but also in other (first order) differences, such as d_2 and d_3. This explains the second statement of the commentary.

The commentary goes on to note another view under "*kecit*". This maintains as against Raghunātha, that the difference from the difference from *x* is another difference, i.e., should fall under the category of difference. This, it is claimed, will not lead to an infinite regress. For, infinity will not be a fault when it is based on evidence or arguments (*pramāṇa*). The commentary continues :

anyathā anyonyābhāvasyaivātiriktatvavilopaprasaṅgāt. Sarvatra tadadhikaraṇamātravṛttidharma eva tatsvarūpatva-kalpanā-sambhavād iti vadanti.

I translate :

> "Otherwise, *difference* itself need not be considered as an additional category. Everywhere we can imagine a property *p* identical with any other property *q* which occurs in all and only substrata of *p*. This is what they say."

I pointed out earlier that if the same principle on the basis of which the absence of ābsence of x is identified with x, or the absence of difference from a pot is identified with potness, is insisted upon, then one may also identify difference-from-pot with absence-of-potness, for, these two properties have also the same locus. If this is conceded, then one may as well eliminate the category (or sub-category) difference and talk of only one category, absence. But apparently, Navya-nyāya feels strongly about a separate category difference; for, there is, Navya-nyāya argues, a stronger epistemic consideration in its favour. How about properties denoted by "*DDDa*" or "*DDDDa*"? Navya-nyāya does not discuss them, as far as I have read, and so I cannot tell either.

§ 2.8 : Definition and Classification

F. P. Ramsey in his *The Foundations of Mathematics* : (1929 edition p. 263) said :

> "Essentially, philosophy is a system of definitions, or only too often a description of how definitions might be given."

If by 'definition' in philosophy we mean something that is similar to the concept of *lakṣaṇa* in Sanskrit, then, surprisingly, the above comment would be true of several classical philosophical systems of India. The term *lakṣaṇa* in Sanskrit has been used in many senses[1] but in logical treatises it mainly stands for "defini-

[1]In the grammatical tradition, for instance, *lakṣaṇa* stands for *sūtra* or grammatical rules, and *lakṣya* stands for words. (Cf. *Mahābhāṣya*, Paspaśāhnika, *Vārttika* 14). J. F. Staal has discussed this in his paper "The Theory of Definition in Indian Logic," *JAOS*, 33 (1961), pp. 122-6. One remark may be added to his discussion. The scheme for a *saṁjñā sūtra* of Pāṇini roughly corresponds to the notion of "nominal or syntactical definition" of the modern formal logicians. Such definitions are explained as "conventions which provide that certain symbols or expressions shall stand (as substitutes or abbreviations) for particular formulas of the system". They "may be theoretically dispensed with and all formulas

tion". The general problem of "definition" as it is found in Sanskrit philosophical texts has been studied by many scholars.[1] Mlle. Biardeau has skilfully handled the question emphasizing the Nyāya and the Vedāntic traditions,[2] and recently J. F. Staal has attempted a "formalization of the theory of definition" in Navya-nyāya[3] with the help of the notations of Boolean algebra.[4] In his concluding remark, Staal notes that unlike a large number of cases in Indian logic the doctrines of *lakṣaṇa* and *saṁkara* "show a marked extensional character".[5] I consider this to be slightly misleading. In any case, I shall examine here in detail the problems connected with *lakṣaṇa* in Sanskrit.

From a very early period the Nyāya school considered three elements to be the main concern of a philosophical treatise : *uddeśa* (enumeration of the philosophical concepts), *lakṣaṇa* (definition), and *parīkṣā* (examination of those concepts). The technique of definition, however, in which the Navya-naiyāyikas evince so deep an interest, was not clearly developed in the early school. Vātsyāyana stated that the purpose of definition (*lakṣaṇa*) was to differentiate an entity from that which does not possess the nature or essence[6] (*tattva*) of that entity. Thus, insofar as the term "nature" or "essence" remained vague in meaning, the notion of *lakṣaṇa* also remained vague. In the new school, an

written in full." See Alonzo Church, *Dictionary of Philosophy*, (D. D. Runes) (New York), pp. 74-5.

[1]See A. B. Keith, *Indian Logic and Atomism*, pp. 153-4, S. Radhakrishnan, *Indian Philosophy*, II, p. 47, A. Foucher, *La Compendium des topiques*, pp. 7-14, & D. H. H. Ingalls, *Materials for the study of Navya-Nyāya Logic* (to be abbreviated as *MN*), 1951, pp. 80-1.

[2]See her "La définition dans la pensée indienne", *JA*, 1957, pp. 371-84.

[3]Navya-Nyāya is usually considered to have begun with Gaṅgeśa, whose date is now usually placed in the 14th century A.D. See D. C. Bhattacharyya, *Bange Navya-Nyāya Carcā* (Calcutta, 1952).

[4]J.F. Staal, *op. cit.*, p. 126.

[5]He also refers to I. M. Bocheński, who holds that Indian logic is intensional and thus differs from Western logic which is more or less extensional in character.

[6]Two different readings of the *Nyāya-Bhāṣya* are available : *uddiṣṭasya tattvavyavacchedako dharmo lakṣaṇam*, and *uddiṣṭasya atattva-vyavacchedako dharmo lakṣaṇam*. I agree with Miss Biardeau in favouring the latter as stating the general principle of definition less vaguely than the other reading, but I think that the first reading may be more in keeping with Vātsyāyana's style. See next section § 2. 9.

attempt was made to avoid this vagueness by specifying that the purpose of definition is to distinguish the 'definiendum' (*lakṣya*) from all entities that are different from it (*itara-vyāvartakatvam*). Or, to put the pragmatic value of definition more clearly, it was said that its purpose was to facilitate the inference that the definiendum is distinct from any other entity (*itara-bhedānumāpakatvam*). A Nyāya definitiod[1] (*lakṣaṇavākya*) usually consists of two parts[2]: a *lakṣya* (definiendum) and a *lakṣaṇa* (definiens). In each case of a true definitiod, it will be possible to formulate a sort of miniature syllogistic inference, of the form : "A (is) B, because C",[3] where the definiendum will occupy the subject position (*pakṣa*), "distinct from others"[4] will be the *sādhya*, and the definiens will be the *hetu*.

The content of the above inference evidently points to a construction of the definiendum and the definiens as co-extensive terms and "co-extensive" may seem to have the same meaning as the term "*samaniyata*" in Sanskrit. Here one may note that the Nyāya theory of definition does not generally rest on synonymity, but on sameness of reference. W. V. O. Quine in his *Two Dogmas of Empiricism* has shown that definition, in some of the best-known senses of the term, rests on "the theory of meaning", i.e., on synonymity,[5] but that in another sense, definition may rest on sameness of reference or extension.[6] This latter sense is found

[1]By definitiod is meant a sentence which expresses a definition.

[2]Good Sanskrit never employs a copula in the present tense; it distinguishes attribution from predication by word order or by choice of structure.

[3]The use of such types of sentences in representing the inferrential process in Indian logic clearly indicates that its language is somewhat intensional in character. Cf. R. Carnap's *The Logical Syntax of Language* (1959), Part IV, p. 246, where the author, while enumerating some of the important examples of intensional sentences, mentions also "Because A, therefore B".

[4]It may be noted here that this form of inference apparently fails when the definiendum is a *kevalānvayin* (unnegatable) term like *vācyatva* ("being nameable") etc. To avoid unnecessary complications I wish to leave aside such exceptional cases in the present discussion.

[5]Cf. *From a Logical Point of View* (Cambridge, Mass., 1961), Essay II, pp. 24-7.

[6]*Op. cit.*, Essay VIII, p. 312. "A general term *t* is said to be definable in any portion of language which includes a sentence *S* such that *S* has the variable *x* in it and is fulfilled by all and only those values of *x* of which *t* is true. Definability so construed rests only on sameness of reference—sameness of extension on the part of *t* and *S*". It is evident that *S* here is

frequently in mathematical literature. Insofar as the Naiyāyikas claim that the definiendum must be co-extensive with the definiens, the Nyāya theory of definition may be described as extensional and Staal deserves credit for having noticed this anomaly. But here some caution must be exercised. In translating "*samaniyata*" as "co-extensive" we are liable to miss one important point. The word *samaniyata* contains the notion of *niyama* which is usually explained as a *vyāpti*-relation (cf., *niyamaś cātra vyāpakatā*). Thus, *samaniyatatvam* has been analysed by the Naiyāyikas as follows :

A. x is *samaniyata* with y if and only if x is pervaded by y and also the pervader of y. (*tatsamaniyatatvam tad-vyāpyatve sati tad-vyāpakatvam*).

The following preliminary remark is necessary to explain this condition. The Naiyāyikas in their logical analysis use a language structure which is carefully framed so as to avoid explicit mention of quantification, class, and class-membership. Consequently, their language structure shows a marked difference from that of the modern Western logicians. In class logic we use the notation "ε" for class-membership and thus "$x\varepsilon\alpha$" is read as "x is a member of α" or "x belongs to the class α". Thus, we can express the fact that two general terms F and G have the same extension by using quantification and class-abstraction as follows :

(x) ($x\varepsilon\alpha$ if and only if $x\varepsilon\beta$).[1]

But the Naiyāyikas instead of classes use properties and in lieu of the relation of membership they speak in terms of *occurrence*

---

what is called an "open sentence" of the form "x *is* F". Thus schematically, the definitiod may be represented as "$t = Fx$". Open sentences, like terms, have extensions, and the extension of open sentences is the class of all objects of which the open sentence is true. (See W. V. O. Quine, *Methods of Logic*, New York, 1961, pp. 89-104). Accordingly t and S have been said to have the same extension here.

[1]Here α and β stand for the class-abstractions corresponding to the terms F and G. That is, α designates the class of all objects of which the term F is true. This is but another way of saying that the extension of F is the class α. Similarly with β. Properties are, however, regarded in Nyāya, as particulars or individuals, as I have noted earlier. I shall avoid this complication in the present context, for this point would not change anything materially here.

(*vṛttitva*) and its reciprocal, *possession*. In other words, the simple predication "*a* is an *F*" (in symbols; *Fa*) which is interpreted in class logic as "$a \varepsilon \alpha$", would be interpreted in Nyāya metalanguage as "*f* occurs in *a*", where the small letter "*f*" is a property-abstraction (as opposed to a class-abstraction) of "*F*".[1] Moreover, instead of quantification, the Naiyāyikas use "double negatives and abstract substantives" to accomplish the same result.[2] Note also that "negatives" are frequently embodied in what I shall call "*termini*".[3] Any noun substantive in Sanskrit can be taken as what I shall call a *terminus*, inasmuch as it designates what may be treated as a *dharma* (property) occurring in some locus and also as a *dharmin* (a property-possessor) in which some *dharma* or property occurs. To the Naiyāyikas, just as "*ghaṭaḥ*" (a pot) can function as a *dharma*, just so can "*ghaṭābhāvaḥ*" (pot-absence, i.e., lack-of-pot or otherness-than-pot). Now, the following procedure is taken to state the condition for the co-extensiveness of the terms *F* and *G*.

If "*F*" and "*G*" are not already substantive expressions, so that they cannot be taken as *termini* in the above sense, then let "*a*" and "*b*" be the corresponding substantivized *termini*.[4] Now we state, (see also § 2.3) :

> B. *a* is *samaniyata* with *b* *iff*[5] (1) *a* does not occur in a locus where absence-of-*b* does occur, and also (2) absence-of-*a* does not occur in a locus where *b* does occur.

Here (1) gives the condition for the portion "*a* is pervaded (*vyāpya*) by *b*" and (2) gives the condition for the portion "*a* is

[1]This can also be put as "*a* possesses *f*". The Naiyāyikas while not objecting to the latter form, usually find it more convenient to adopt the former one. "*f*" actually designates the "essential" property of the entity to which *F* is applied. Perhaps we are here faced with some form of "essentialism". See next section § 2. 9.

[2]Thus Prof. Ingalls has said, "The Navya-Nyāya begins by removing all quantified statements by the use of two negatives and an abstract" in "The comparison of Indian and Western Philosophy", *Journal of Oriental Research* (Madras), Vol. xxii, 1954, p. 7.

[3]I use the Latin word "*terminus*" and its plural "*termini*" in place of "term" to furnish the special sense of a substantivized word which may serve as a term in a Nyāya definitiod. Thus, in this special sense "*gamanam*" is a *terminus* whereas "*gacchati*" is not.

[4]To substantivize a verbal expression the appropriate *bhāvārtha kṛt* suffixes will be used, e.g., for *gacchati*, *gamana* (=gam+lyut). To substantivize an adjective or descriptive noun (e.g., "father", "wife", etc.) one uses the *taddhita* suffixes -*tā* or *tva*(-ness, -hood in English).

[5]This is a common abbreviation for the expression "if and only if".

the pervader (*vyāpaka*) of *b*". (See definition (A) above). In Navya-nyāya language the conditions (1) and (2) are stated as follows :

> *a* is non-occurrent in the locus of the absence-of-*b* and is also not a counter-positive of any absence that occurs in the locus of *b* (*Tad-abhāvavad-avṛttive sati tad-van-niṣṭhâtyantâbhāvāpratiyogitvam*).

Some further remarks on the nature of abstraction in Sanskrit are required. Navya-nyāya language, as we know, is generally intensional. Thus, in their scheme, relations, such as *samaniyatatva*, *vyāpyatva*, are really relations-in-intension as opposed to relations-in-extension. The internal structure of this language can better be represented with the notations for *intensional abstractions* than those of class abstraction. I propose to use the symbol "*x*[...*x*...]" for the (intensional) property-abstraction, where the prefix "*x*", like the quantifiers, is a variable-binding operator, but unlike a quantifier produces a singular abstract term when attached to a sentence. Thus, "being fire" or "fireness" can be represented under this convention as "*x* [*x* is fire]". But it is important to note that when, instead of terms like fire, etc., we

[1]By using the transformation rules of class logic and truth-functional logic one can easily show that the two schemata given below are equivalent.

(a) $(x)\ (x \varepsilon \alpha\ iff\ x \varepsilon \beta)$

(b) $—(\exists x)\ ((x\varepsilon\alpha).\ —(x\varepsilon\beta)).—(\exists x)\ ((x\varepsilon\beta).—(x\varepsilon\alpha))$.

Now if we interpret "α" as "the class of all objects or loci in which *a* occurs" and "β" as "the class of all such objects or loci in which *b* occurs" then the first half of schema (b) represents condition (1), and the second half represents condition (2) of (B) above. In (b) we have eliminated the universal quantifier '*x*' in favour of the negative and the existential quantifier. The manipulation is designed to show that the language of the Naiyāyikas can be translated into extensional language involving quantification. The point to be noted is this : The Navya-nyāya language may be translated into extensional language although it is not by itself extensional. But this is not a case in favour of the Thesis of Extensionally, which (in its strongest form) holds that all intensional languages are translatable into extensional language. For a brief exposition of this thesis see R. Carnap, *The Logical Syntax of Language, ILP*, 1959, pp. 245-6. We can also eliminate "α" and "β" and express (b) in quantificational language using only "predicates" like *F*, *G* etc.

(c) $—(\exists x)\ (Fx.—Gx).—(\exists x)\ (Gx.—Fx)$

But note that neither (b) nor (c) reveals all the essential features of Navya-nyāya language, and that the variable *x* ranges over the domain of the loci.

use a "fragment of description"[1] like *lakṣya* (definiendum), *sādhya* etc., the notation "x [x is *lakṣya*]" will behave more like what is called an *incomplete symbol*[2] than like a singular abstract term naming an entity. In fact, an expression such as "x is *lakṣya*" is to be developed fully only in a descriptive phrase like "the object x such that x is the *lakṣya* of such-and-such a definition" (in symbols : $(ix) Fx$).[3] When the Naiyāyikas use such descriptive phrases for x without naming x, it is clear that they cannot talk directly about the abstract property of x by substantivizing (with suffixes "*-tva*", or "*-tā*") the term that describes x. The usual practice of the Naiyāyikas under such circumstances is to use another descriptive phrase to refer to such an abstract property. Thus, if x is described as the *lakṣya* in a given context, the property-abstraction from x will be described by the Naiyāyikas as the *lakṣyatâvacchedaka*, i.e., the limiting property of the relational abstract *lakṣyatā*, i.e., in symbols, the limiting property of x[x is *lakṣya* or definiendum] in such a context. For instance, if "fire" is described as the *lakṣya*, we can describe the property "being fire" or "fire-ness" as the limiting property of the relational abstract *lakṣyatā* in such a context.

To extend the above convention for representing intensional abstraction, I propose to use the symbol "xy[...x...y...]" for the relation-in-intension.[4] Thus, the relation of *samaniyatatva*, etc., will be written as "xy[x is *samaniyata* with y]", where the order of the variables in the prefix will determine the *pratiyogin* and the *anuyogin* of the relation in question, namely, the first will be taken as the *anuyogin* or "subjunct" and the second as the *pratiyogin* or "adjunct" of the relation.[5]

[1]Prof. Ingalls has introduced this convenient term in his *MN*, p. 45.

[2]By "incomplete symbol" is meant a symbol which has no meaning in isolation, but is only defined in a certain context. "They have a meaning in use, but not in isolation." Cf. A. N. Whitehead & B. Russell, *Principia Mathematica*, Vol. I. Ch. III, pp. 66-7.

[3]Since Peano it has been customary in logic to use this *iota*-operator to represent the descriptive phrases like "the object x such that".

[4]All the above notations for intensional abstraction have been adapted from W. V. O. Quine. See his *Word and Object* (Cambridge, Mass., 1960), pp. 164-6.

[5]Each Nyāya relation has a "direction", i.e., it can be conceived as proceeding from one relation to the other. In other words, a relation can always be expressed in the form "relation of y to x". In such context the Naiyāyikas describe y as the *pratiyogin*, and x as the *anuyogin* of the relation in question. On this point see Ingalls, *MN*, p. 40.

Now, to return to the problem of the relation between definiens and the definiendum. Let us illustrate the point with this definitiod : *bhāryātvam vivāhita-nārītvam.*[1] One may fairly translate this as "a wife (is) a married woman", whereupon the *lakṣya* or the definiendum would be "wife" (*bhāryā*) and the *lakṣaṇa* or the definiens would be "married woman" (*vivāhita-nārī*). Now, "wife" and "married woman" can be said to be co-extensive, i.e., they have the same extension, because they can be taken as "predicators" (of degree one) having as extensions the corresponding classes which are equivalent.[2] But since "wife" and "married woman" cannot be taken as the relata of the relation of *samaniyatatva,* we ascend to the next level of abstraction, i.e., to our *termini* "wife hood" and "married-womanhood". Actually, these are the two relata of the relation of *samaniyatatva,* and not "wife" and "married woman". It may be noted that this point will be missed if this relation is translated without reservation as "co-extensiveness".

Now, to modify our previous remark, a definitiod in Navya-nyāya substitutes a *lakṣyatâvacchedaka* for the *lakṣya* of popular language. Accordingly, the *lakṣaṇa* undergoes a corresponding change. This is clearly shown by the definitiod given above. Instead of *vivāhita-nārī* (the ordinary definiens in English), the abstract *vivāhitanārītva* is taken as the *lakṣaṇa*. This justifies the Naiyāyikas' claim that in a correct definitiod the *lakṣaṇa* should be *samaniyata* with the *lakṣyatâvacchedaka* (instead of saying that the definiens and the definiendum should be co-extensive). We can formulate the general definition of the relation of *samaniyatatva* in intensional notation as follows :

> *xy* [*x* is *samaniyata* with *y*] $=d$[3] *xy*[*x* is pervaded by *y*]. *xy*[*x* is the pervader of *y*] $=d$ *xy* [*x* does not occur in a locus where absence of *y* does occur]. *xy* [*x* is not absent from a locus where *y* does occur].

This corresponds to our conditions (1) and (2) given above. Now, it is easy to see that the violation of condition (1) gives

[1]Taken from Gadādhara Bhaṭṭāchāryya's *Vivāhavādārthaḥ*.

[2]In thus stating the condition for co-extensiveness I have roughly followed R. Carnap. See his *Meaning and Necessity* (Chicago, 1956), pp. 14-25.

[3]I shall use the ordinary sign "=d" for definition. This can be read as "is defined as".

rise to the defect of *ativyāpti* (too wide a definition), and that of condition (2) to the defect of *avyāpti* (too narrow a definition).[1] A third kind of *doṣa* (defect) mentioned by the Naiyāyikas is *asambhava* which is but an extreme case of *avyāpti*. It takes place *iff* x is absent from *all* the loci of y.[2] The corresponding extreme case for *ativyāpti*, though conceivable, is not important in this context. But there is another peculiar case of *avyāpti* noted by the Naiyāyikas which is philosophically significant. This is technically called "*aprasiddhyâvyāpti*".[3]

If both conditions (1) and (2) are violated, both the defects *avyāpti* and *ativyāpti* take place. The situation is as follows : x occurs in a locus where y does not occur and x is absent from a locus where y does occur.[4] This brings us close to another problem, viz., *saṁkara*, which we shall examine presently. At any rate, the presence of two defects in one case is nothing to be wondered at, for this only amounts to saying that the *hetu* of the inference concerned[5] is defective in two ways. Actually, the Naiyāyikas can construct an inference where the *hetu* is defective in all five possible ways.[6]

[1]The Sanskrit definitions for these two defects are *a-lakṣya-vṛttitvam* and *lakṣyāvṛttitvam* respectively. We can represent them in intensional symbols as follows : (1) xy [x is *ativyāpta* by y]=d xy [x *does* occur in a locus where absence of y does occur]. (2) xy [x is *avyāpta* by y]=d xy [x is absent from a locus where y *does* occur]. Using the convention discussed in footnote 1 of p. 169, we can express these conditions in the language of class logic :

(I) $(\exists x)(x\varepsilon\alpha.—(x\varepsilon\beta))$

(II) $(\exists x)\ (—(x\varepsilon\alpha).x\varepsilon\beta)$

Note here, that the variable x, as before, is to be taken as ranging over the domain of loci, which is not the case in the former expressions (b) & (c).

[2]The Sanskrit definition is *lakṣya-mâtrāvṛttitvam*. In symbols of class logic the condition is presented (using the convension of footnote 1 of p. 169) as follows :

(III) $(x)\ (x\varepsilon\alpha\supset\ —(x\varepsilon\beta))$

Note that the word "*mātra*" in Sanskrit accounts for the universal quantification in symbolic expression.

[3]For further discussion regarding this subject see Ingalls, *MN*, pp. 80-1.

[4]In notations of class logic this can be put as follows : $(\exists x)\ \ (x\varepsilon\alpha.—(x\varepsilon\beta))$. $(\exists x)\ (—(x\varepsilon\alpha).\ x\varepsilon\beta)$. J. F. Staal has explained (*op. cit.*) *saṁkara* or "overlapping" using the notations of Boolean Algebra as follows :

$(x\bar{y}\cdot\neq 0).(x.y\neq 0).(\bar{x}.y\neq 0)$

[5]It has been already noted that the Naiyāyikas want to reduce all definitions to an inference of the form : *A* differs from other entities because *B*. See above.

[6]E.g. *gaur aśvo ghaṭatvāt* (A cow (is) horse, because of potness). Here all the five kinds of *hetvābhāsa* occur.

Saṁkara is a problem related to the notion of logical classification. The situation which the Naiyāyikas call *sāṁkarya*, can be treated in the same manner as *samaniyatatva*, *vyāpyatva*, etc., viz., as a relation-in-intension between two *termini* (as before), belonging to the same level of abstraction. But *saṁkara* by itself is in no sense connected with the defects of definition (*lakṣaṇa*). The notion of *saṁkara* is philosophically significant, only when one is trying to determine whether a particular *terminus* abstracted from an ordinary (general) term can be regarded as *jāti* (a generic real) or not.[1] Since our present concern is not to investigate the problem of *jāti* or *sāmānya* proper, I shall proceed, after a brief remark on the notion of *jāti*, to examine the two problems connected with *saṁkara*, e.g., how to formulate an exact definition of *saṁkara*, and under what condition *saṁkara* or *sāṁkarya* will disqualify a *terminus* from being a *jāti*. Since the second question is directly related to the problem of *jāti*, I shall take it up first. See also § 4.1.

The nyāya concept of *jāti*, in its earlier phase, was undoubtedly related to the familiar problem of universals. The earlier Naiyāyikas betrayed a spirit of realism in upholding the doctrine of *jāti*. The pragmatic ground for accepting *jāti*, namely, the need to explain why a general name is applicable to different individuals, was, however, furnished almost from the beginning. It was argued that there must be some permanent, characterizing entity or essence corresponding to the general name which accounts for the name being *true of* different individuals. Such a theory was, however, subjected to the classic objections which have been raised against Realism. Moreover, the idea of essence invited still more difficulties. A hierarchy of *jāti* was admitted. *Sattā* (existence or being-ness) was accepted as the highest in the scheme. Under *sattā*, *dravyatva*, *guṇatva*, and *karmatva* (answering to the three general names, *dravya* or substance, *guṇa*, or

[1]It is highly probable that the term *saṁkara* originally belongs to the Smṛti literature which deals with problems of *varṇa-saṁkara* etc. Udayana in his *Kiraṇāvali* on *Praśastapāda-bhāṣya* develops the notion of *saṁkara* at some length describing it as one of the five *jāti-bādhaka*'s. This theory however, met trenchant criticism at the hands of Śrīharṣa and other philosophers. Even Raghunātha disputed it in his *Padārthatattvanirūpaṇam* and also briefly in his *Guṇa-kiraṇāvalī-prakāśa-dīdhiti* (particularly the problem of *saṁkara* with relation to *bhūtatva* and *mūrtatva*). This specific problem has been discussed by many scholars since. See *Vādavāridhi* (ascribed to Gadādhara), *Padārthamaṇḍanam* (of Veṇidatta) (*Prince of Wales Text Series*, No. 30) etc.

quality, *karma* or movement) were accepted as the three *jāti*'s which together are considered to be exhaustive and also mutually exclusive. Points to be stressed in this connection are these : the question of *jāti* cannot be compared with the medieval hierarchy of classes, where the class animal, for example, is divided into man and beast, or rather, man and not-man, nor with the modern hierarchy of classes and sub-classes of the mathematical logicians which invites the paradox of classes (Russell) and the antinomies of class and sub-classess (Cantor).[1] The Naiyāyikas thought of this *jāti* as something real and indestructible, occurring in individuals (*vyakti*).[2] It is as real as an ordinary particular object, say, a pot. Just as an ordinary object, a pot, is determinable by space-time co-ordinates, and any other object of a similar "type" cannot occupy the same space-time co-ordinates, unless the one is totally included in and, therefore, becomes a part of the other, so also only one *jāti* can occur in one individual and no other *jāti* can occur in that individual, unless it is either included in or is inclusive of the former *jāti*. This principle was implicitly followed with the result that only a few *termini* abstracted from general names can be taken to be naming *jāti*'s. We can rephrase the condition for *jāti* in a specific case as follows :

> C. If x and y are two *termini* naming two general properties shared by more than one individual, and if those two properties are said to occur in one and the same individual (*vyakti*), then they can *both* be regarded as instances of *jāti*, *iff* one of them is either *included in* or *inclusive of* the other.

Violation of this rule gives rise to the situation known as *saṁkara*. A *terminus* under *saṁkara* is disqualified from being a *jāti* since it violates this principle.[3] This is, in effect, a defect of cross-classification or overlap.

[1]These antinomies are usually named after their discoverers. For a good exposition of them one may consult S. C. Kleene, *Introduction to Metamathematics* (New York, 1962), Ch. III, § 11, § 12.

[2]The traditional Nyāya holds the curious doctrine that the *jāti*'s are real (*sat, satsvarūpa*) but do not possess reality (*sattā*) by inherence. They were forced into this position by difficulties of hierarchy and of the relations between categories. If *sattā* could possess *sattā* there would be the faults of *ātmāśraya* and of infinite regress. Cf. *Kiraṇāvalī*.

[3]The principle in Nyāya language has been stated as follows : "*sva-sāmānādhikaraṇya-svâbhāvavadvṛttitvâitad-ubhaya-sambandhena jāti-viśiṣṭa-jātitvâ-*

Now, to formulate the definition of *saṁkara* is not at all difficult, if only we make certain that the relation of "inclusion" as expressed in the above condition be reframed using intensional language. I shall examine a definition of *saṁkara* offered by Gadādhara Bhaṭṭācāryya in his *Tattvacintāmaṇi-dīdhiti-vivṛti.* The definition runs as follows.[1]

Taj-jāty-avyāpakatve sati taj-jāti-vyabhicāritve sati taj-jāti-sāmānādhikaraṇyaṃ saṁkaraḥ.

Using the notation for intensional abstraction as before, this can be written as follows :

x[x possesses *saṁkara*] = x[x is not the pervader of a *jāti* a]. x[x is not pervaded by the same *jāti* a]. x[x occurs in a locus where a occurs].

Example : by substituting "*indriyatva*" (sense-organness) for x and "*pṛthivītva*" (earth-ness) for a we get a true statement, which proves that the former is disqualified from being a *jāti* by the latter. It is, however, clear that *saṁkara* is here defined with relation to a *jāti* term. But there is another kind of *saṁkara* which the Naiyāyikas call "*paraspara saṁkara*", for instance, the relation between *bhūtatva* and *mūrtatva.* In order to apply the above definition of *saṁkara* here, it is necessary to deliberately ascribe *jātitva* to one of the two, so that the other can be tested for *saṁkara.* But such an ascription (called *āpādana*) is entirely deliberate, and is made only for the purpose in question. Thus, here also the whole notion of *saṁkara* amounts to this : it is a sort of relation-in-intension between two *termini*, and it determines that not both of them can be *jāti,* i.e., *at least* one of them is not *jāti. Saṁkara*, in Nyāya theory, may disqualify a *terminus* from being a *jāti* whose status as *jāti* is yet to be proved, but it cannot do so where such status has been proved through some stronger means.

Thus, from what has been said it can be seen that the doctrines of *lakṣaṇa* and *saṁkara* can be translated into extensional language. And one will readily grant that such translation is a

---

vacchedena sva-samānādhikaraṇâtyantâbhāva-pratiyogitvâbhāva-niyamaḥ" Note that the expression "*jātitvâvacchedena*" has the force of a universal quantifier.

[1]See *Gādādharī* (=*Chowkhamba Sanskrit Series*, Vol. 42), p. 91.

valuable aid to our understanding of Navya-nyāya. But such translation does not always reveal, and, in fact, if not used with constant caution may actually obscure, the essential features of the language-structure adopted by the Naiyāyikas. In their analysis, as we have seen, the Naiyāyikas cling to intensional abstraction, and speak of their abstract properties as intensions of the predicates and sentences, rather than of classes and truth-values.

§ 2.9 : Definition, Differentiation and Essence

A. N. Whitehead once described some philosophers as "poor definition-cutters with logical scissors." Similar derogatory phrases have been applied to the Navya-naiyāyikas by their compatriots in India. This only shows the importance Navya-nyāya has put on clear and precise formulations of *lakṣaṇa* (of 'definitions') of logical and philosophical concepts in any systematic treatises (cf., *śāstra*). I have translated "lakṣaṇa" by "definition" in English, although I do not thereby claim that the function of *lakṣaṇa* in Sanskrit philosophic activity is exactly and neatly matched by the function of "definition" in Western logic. In fact, few philosophical (and logical) terms in Sanskrit are translatable in this way into English or in Western philosophical language. But using the principle of charity we select a translation that comes close enough so that our discussion of classical Indian philosophy can proceed in modern terms. Such a procedure seems quite acceptable (in fact, is current among modern writers) provided care is taken to explain the concept in question in intelligible manner in the course of our discussion.

Sometimes *lakṣaṇa* is understood to be the defining property or properties. However, "lakṣaṇa" or "definition" is also used ambiguously to denote an act that the philosophers perform when they utter a definition-sentence. Arguably, *lakṣaṇa* in this sense may belong to the class of 'illocutionary acts', the kind described by Austin and Searle.[1] As an illocutionary act, it is also correlated with what has been called a 'perlocutionary' act. In fact, some sort of a speech-act analysis of the act of definition, i.e., *lakṣaṇa*, may be fruitful, although this will not be my concern here.

[1]Austin, (1962) pp, 98-99, Searle, p. 54ff.

In ordinary Sanskrit "*lakṣaṇa*" generally means a mark, an indicator or even a characteristic, and "*lakṣya*", accordingly, means the indicated entity. Philosophers have taken these two terms to use them in a rather technical sense, which is not entirely unrelated to their ordinary sense. The grammarians (Pāṇinīyas) use the same pair of terms in a slightly different sense. The *sūtras* of Pāṇini which embody the rules of grammar are called *lakṣaṇa*, and the correct forms derived in accordance with these rules are called *lakṣya*. This has given rise to some confusion in the minds of some modern scholars. But G. Cardona has set the matter straight by pointing out that there is a much simpler explanation of this phenomenon.[1] "*Lakṣaṇa*" means "explanation through characterization". A grammatical rule or a *sūtra* is called a *lakṣaṇa*, because it characterizes (i.e., explains) the correct speech. In fact, we should note that a *lakṣaṇa* does not *mean* a *sūtra* or a grammatical rule in the sense of stating a regularity of the word derivation. (This was the confusion of Al-George.)[2] But a *lakṣaṇa*, of course, *stands for* a *sūtra* which states a grammatical regularity. By formulating a *sūtra*, Pāṇini does not simply state a regularity of word-derivation (in a 'descriptive sense'), but also recognizes that there are correct word-forms (cf., *sādhu-śabda*) which are explained through derivation, etc., by the *sūtra* in question in such a manner that they are thereby distinguishable from incorrect, ungrammatical forms (cf., *apaśabda*). In other words, one of the functions of the *sūtra* is to *indicate*, i.e., it serves as an *indicator* of, the forms that are grammatically correct (so that the incorrect forms are excluded). Viewed in this way, it does not come as a surprise that the *sūtra* will be called *lakṣaṇa* 'indicator' and the correct forms *lakṣya* 'the indicated'. I suggest, therefore, that this (grammarians') use of the pair '*lakṣya-lakṣaṇa*' is also connected with the logicians' use of the same pair, for which one may adopt the translation 'defined-definition' in the absence of any better terminology.

Vātsyāyana states under *Nyāyasūtra* 1.1.3 : "This *sāstra* proceeds in three ways. Enumeration or naming (of the categories), (their) definitions (*lakṣaṇa*) and examination (of those

[1]Cardona, p. 328.

[2]Al-George, pp. 213-21. ["Lakṣaṇa, grammatical rule", *Festschrift K. C. Chattopadhyaya*, 1971.]

definitions)."[1] What Vātsyāyana says here is, in fact, true generally of philosophical treatises of all other schools of classical India. A philosophical treatise would, according to this style of philosophizing, formulate definitions or *lakṣaṇas* of the concepts or categories accepted in the system, and then examine, i.e., ascertain, with the help of *pramāṇas* (means of knowing) whether the defined object (*lakṣita*) conforms, in fact, to the definition as given. After formulating a definition, the philosopher proceeds to show why and how his definition adequately meets the acceptable standard or the necessary requirements of a definition and how the defined objects and only such objects are characterized by the definition, i.e., the defining property or properties suggested by him. This eventually leads him to a discussion, and a critique, of the rival theories and inadequacy of rival definitions of the same concept.

Let us now see whether we can regard *lakṣaṇa* (in Vātsyāyana's sense) as an illocutionary act. What is a *lakṣaṇa* or what I have called a definition here ? Vātsyāyana answers : It is the property that distinguishes the object to be defined from what it is not.[2] This answer underlines the fact that a philosopher gives a definition by assigning to the object or objects the defining property (*lakṣaṇa*) and by his act of definition he intends to produce some effect or consequence, i.e., an awareness in his students or readers so that they would be able to recognize or identify the object or objects defined as *distinct* from others. This is, it seems to me, comparable to what is called a 'perlocutionary-effect' of an illocutionary act.

Uddyotakara makes this point clear in answer to a slightly different question. It is asked why Akṣapāda (the supposed author of the *Nyāyasūtras*) formulated a separate statement (*sūtra* 1.1.3) for classifying the *pramāṇas* (means of knowing) into four, while it would have been obvious that there were (according to Akṣapāda) only four *pramāṇas* from the fact that he formulated definitions of only four such *pramāṇas*. Uddyotakara's answer amounts to saying that the intended effect of the act of definition is different so that the students or

[1] Vātsyāyana, p. 181 noted also in Section 2.8.

[2] Ibid., p. 181. See also Staal, pp. 122-6.

readers would not have understood from such definitions that there are only four *pramāṇas*. I quote :[1]

"Such a contention could have been conceded ; since four (*pramāṇas*) have been defined (by *Akṣapāda*), it is understood that there are only four *pramāṇas* (according to him). But this is not so. For, a definition (*lakṣaṇa*) is the ground/reason for differentiating the object (to be defined) from others. Certainly, the definition differentiates the object (*padārtha*) from those similar to it as well as from those dissimilar. But, it cannot perform the function of restricting (cf., *niyama*) the number (so that one would understand that there are only four *pramāṇas*). Such restriction is intended by another act (different from the act of definition). That there are no further *pramāṇas* (besides the four defined) is not understood from the definition....Therefore, the classificatory statement (in Ns. 1.1.3) is justified, as it is intended to resolve the doubt (whether there are further *pramāṇas* or not)."

What Uddyotakara tries to explain here is easily grasped by distinguishing between two different kinds of illocutionary acts with two different intentions and conditions. One is the act consisting of a classificatory statement (*vibhāgoddeśa*) performed by uttering *Nyāya-sūtra* 1.1.3 intended, among other things, to restrict the number of *pramāṇas* to four, and the other is the act of definition of the four *pramāṇas* performed by uttering *Nyāyasūtras* 1.1.4-1.1.8, intended to allow the readers, among other things, to recognize them and differentiate them from one another as well as from those that are not *pramāṇas*. One further point to be noted in this connection is this. If the act of definition in this sense is an illocutionary act and its perlocutionary effect is differentiation of the object to be defined from similar and dissimilar objects, then the above Nyāya definition of definition in terms of assigning a differentiating property may be seen as an acceptable attempt to define an illocutionary verb in terms of its intended perlocutionary effect.

Vācaspati Miśra comments[2] : "Defining is speaking of the unique reason or evidence (what is technically called *kevala-*

[1]Uddyotakara, pp. 183-4. (A Thakur's edn. *Nyāyadarśana*).
[2]Vācaspati, p. 186.

vyatireki-hetu in Uddyotakara's system). That (unique evidence) determines the items or things to be defined by separating or differentiating them from similar things as well as dissimilar things". In other words, Vācaspati thinks of definition as a means of supplying a property, a 'unique evidence', for making a valid inference regarding the distinction of a set of things from what they are not. The nature of this valid inference is discussed below.

A well-known controversy in the West, as far as the theory of definition is concerned, is usually formulated in the form of a question : What do we actually attempt to define? Things ? or, words? This point is reflected in the usual distinction that is made in the West between a *real* definition and a *nominal* definition. If we define things, it is a *real* definition, and if we define words, it is a *nominal* definition—so goes the standard interpretation. A third alternative, which steers clear of both, is added by asserting that we define concepts, neither words nor things. What about the well-known definitions offered and discussed by the respectable ancient and classical (Western) philosophers ? There is a strong philosophic tradition, initiated by the Greek 'triumvirate', Socrates, Plato and Aristotle, which regards *real* definition as part of an important style of philosophizing. It may be surmised that they were not the target of such attack by A.N. Whitehead as I have already mentioned in the beginning of this section. It is believed that when Socrates asked "What is Knowledge" or "What is the Soul?" he was asking for a *real* definition. He was not merely concerned with the 'meaning' or 'use' of the word 'knowledge' or 'soul'. The purpose of a nominal definition is roughly to establish or inform the meaning of a word or symbol. This process of real definition has been discredited in modern times in the West and the nominal definition has been preferred with the growing recognition of the importance of language in philosophy. Attempts have been made to focus upon nominal definitions, even to rephrase the older question about things, "What is *X* ?" into the question about meaning, "What is meant by '*X*'?" Philosophers, according to this theory, is supposed to formulate a nominal definition, lexical or otherwise. This does not, however, discredit the so-called real definitions practised by the classical philosophers. For, in spite of

their misconception about what they were defining, things or names, it is possible to derive philosophic insight from such definitions as well as to understand or rephrase them as nominal definitions of the useful kind or as legislative definitions for their systems.[1]

The dispute between real and nominal definition has been somewhat counterproductive in the Western tradition. And the by-product of the dispute has led to such views as that definition is tautology and, therefore, fruitless or that definition is only 'an insistence on hard-headed clarity.'[2] In fact, barring some technical as well as some trivial uses of the term 'definition', one can regard, with some ingenuity, most definitions as a very useful sort of philosophic activity by which a word or a symbol is explained in the sense that its *meaning* is rendered precise for a discourse, to enable one (the student, the reader) to correctly apply it to things or items it is supposed (or intended) to apply. If definition is understood in this way, then it will seem that the Indian theory of *lakṣaṇa* is not a strange sort of activity entirely unrelated to the Western notion of definition. Having made this point, I wish to concentrate on the Indian philosophers and the problems and disputes they engaged themselves in with regard to *lakṣaṇa.*[3]

[1]Robinson (1954), pp. 12-34.

There is one particular use of definition that is most current in modern logic. It is sometimes called contextual definition for eliminative purposes. This is how the logical connectives of the propositional calculus, for example, were defined in *Principia Mathematica*. These connectives were given a 'definition in use'. They are what the authors of the *Principia* called 'incomplete symbols' and, hence, defined 'contextually'. What is given meaning by the definitions are these signs in their contexts.

Quine sharpens the notion of what he calls an eliminative definition as follows. "What is required of an eliminative definition of a word *W*, on the basis of some accepted defining vocabulary *V*, is that it explains how to paraphrase every sentence *S*, in which the word *W* occurs, into a new sentence that contains only words of *V* and *S* other than *W*." "Vagaries of Definition" in *Ways of Paradox and other essays*, 1976 ed., pp. 54-55.

[2]Whitehead A. N., *Adventures of Ideas*, p. 91.

[3]One significant distinction between the Indian (nyāya) notion of *lakṣaṇa* and the Western (say, the Socratic) notion of definition is that the former allows the possibility of a number of parallel defining properties of the same set of objects, while the latter insists on presenting the essence (cf., real definition) of the objects to be defined. Cf., Socrates's reply in *Theaetatus*, "What the thing itself is," Plato 146e. Nyāya looks for some (one of

Let us come back to the specific problems that arise in connection with *lakṣaṇa* in the Indian context. One usual objection (*pūrvapakṣa*) raised against the activity of definition is given as follows. It is either useless, or it leads to an infinite regress. It is useless, for, the defining property does not certainly create the items to be defined. Nor can it generate a precise understanding of such items or things, for, we are mostly familiar with the things themselves even before we are presented with a definition. If we insist, however, that precise understanding comes only through a definition, then that definition i.e., the defining character itself, should need to be defined by another definition so that we can assign it as the defining character after having a precise understanding of it. This will then lead to infinite regress, for the process will never end. Therefore, the conclusion is that definition is useless.

Vācaspati in reply to such objections has said that definition is meant for such persons as are unable to clearly identify the objects or things concerned as distinct from those that are not, due to some confusion (*vyāmoha*) or other.[1] Udayana has explained :[2]

> It is not that everybody is confused, so that there could be no teacher and none to be taught. Nor is it that there is confusion (imprecise understanding) with regard to everything, so that there would be infinite regress. Nor is it that every item causes imprecise understanding, so that there would be no knowledge. Nor is it that every item is (entirely) unknown so that the defining character will lack any substratum to begin with.

Udayana's last point is rather technical in nature and hence needs some explanation. The logical defect called *āśrayāsiddhi* (literally, 'lack of a proper substratum') arises if a property is assigned by a sentence to such a locus or substratum as is entirely unknown (to both the speaker and the hearer). The

---

several) unique properties in a definition (*lakṣaṇa*), while Socrates looks for the essential property. I believe that essential properties, if there are any, should be only one for each set of objects, whereas there may be several *unique* properties belonging to the same set of objects.

[1]Vācaspati, p. 209, line 6.

[2]Udayana, *Pariśuddhi*, pp. 242-3.

defect is connected with the problem of empty subject term in logic (see § 2.1, § 2.2). Udayana's solution here is that what we define cannot be entirely unknown, for, that would render the defining act impossible. What we define is, at least, vaguely familiar to us, or we have a general, though imprecise, acquaintance with it (cf., *sāmānyajñāna*). For, without such an acquaintance, there cannot arise the required desire to know or understand it precisely. And without such a desire which leads to the question "What is *X*" (cf., *jijñāsā*), the act of definition does not follow.[1]

The situation is, it is argued, comparable to the initial doubt with regard to the specific nature of a thing and the eventual resolution of it when a decision has been reached on the basis of some specific evidence. Doubt cannot arise, according to both *Nyāyasūtra* 1.1.23 and *Vaiśeṣika-sūtra* 2.2.16, unless there is some acquaintance with the object of doubt. From a distance, we see something and then wonder, i.e., doubt, whether it is a man standing there or a dead tree-trunk. When we have further evidence, such as, arms and legs, we decide that it is a man. We need not insist, unless, of course, we are indulging in Cartesian doubt, whether our so-called evidence is really an evidence, for, our ordinary doubt is resolved, for all practical purposes, in the above manner. Similarly, if a defining character that has already been assigned seems to be vague or imprecise to the hearer, we may resort to further definitions. This certainly does not regress to infinity, for, it is possible to soon reach such characters as are clearly recognizable by both the speaker and the listener. Thus, it is said by Udayana, "*na hi sarvatra sandihānāḥ puruṣāḥ*". "It is not that people entertain doubt with regard to everything."

Bhāsarvajña points out that it would be impractical to entertain a doubt or an indecision in the case of each definition. For, the person addressed to in the act of a definition is a listener in a situation where some communication is supposed to take place. To make communication possible, it is assumed that he understands certain basic categories, or is familiar with them. In other words, he understands, at least, which things

[1]Cf. Aristotle in *Posterior Analytics* : "When we know that it *is*, we inquire *what* it is." 89 b 34.

certain words apply to or what is meant by them. Therefore, when the definer defines something in terms of such basic words, it would be improper to claim that he still generates doubt in the mind of his listener. In such cases, there is no further regress. If, however, he does not have a listener who can understand the application of certain basic words, it would be a worthless enterprise to utter words for the purpose of defining anything. Such extreme cases, it is argued, may be ignored, just as we ignore the ramblings of a mad man. A mad man, for example, may utter anything pointing at a tree, we need neither take it to be a question for giving a definition of the object, nor can we use the utterance for defining that object.

It is sometimes argued that one can possibly define (giving some unique character) everything else but not what we call a definition. Bhāsarvajña replies that it is untenable. For the definition of definition can be reflexive. Just as the unique character of definition (cf., *lakṣaṇa-lakṣaṇa*) characterizes each item that is called a definition, it can, at the same time, characterize itself uniquely, i.e., differentiate itself from what is not a definition. It is argued that reflexivity does not always generate a paradox. If one utters "all sound (noise) is impermanent", one does not exclude the utterance itself which is also a sound. "The scriptures should be read" can also be part of the scriptures which are prescribed to be read. And light can make other things visible including itself. All these examples are used by Bhāsarvajña to remove the alleged paradoxicality of the definition of definition.[1]

The parallelism between the knowledge of the defining character and that of the specific evidence (*viśeṣa-vijñāna*) is more than peripheral. For, according to the theory we are trying to expound here, the following holds true. If a specific evidence, say *a*, is what allows us to ascertain that something is *A* ("This is an *A*" is concluded on the basis of our awareness of *a* through an inference), then *a* would be a defining character of *A*. In other words, with the help of *a*, we would be able to differentiate any *A* from what is not *A*, and a definition-sentence could be given as :

"*A* is what has *a*."

[1]Bhāsarvajña, *Nyāyabhūṣaṇa* comm. on his *Nyāyasāra*, p. 6.

This is, at least, the considered opinion of Bhāsarvajña in his *Nyāyabhūsaṇa* :[1]

> " "defining character", "mark" and "evidence" are synonymous."

We are now at the heart of a very significant controversy over the theory of definition or *lakṣaṇa* between two most well-known Naiyāyikas, Bhāsarvajña and Udayana. I shall briefly discuss this controversy here, for it throws a flood of light on the understanding of the nature and purpose of definition by Indian philosophers in general. Bhāsarvajña argues that if a characteristic is specific enough so that the recognition of it leads to the correct identification of an object or a set of objects, then there is no harm in calling the said characteristic the defining character or *lakṣaṇa*. A problem arises, however, if the character in question over-extends to an object or objects not members of the set in question. This is technically called the fault of 'over-extension' (*ativyāpti*). In that case, the characteristic in question does not qualify to be a defining character, although it may be used for identification in some given circumstances. We may identify a number of bulls by their horns, but the property of having horns cannot be used to define the class of bulls; for, others, buffaloes and goats, have horns too. But if we can recognize some specific types of horns that are only found in bulls, there is no harm, according to Bhāsarvajña, in allowing possession of such horns as the defining character of bulls. We cannot counter that, if we recognize the specific type of horns by which we have already identified the bull, then, the purpose of definition (identification of the object as distinct from others) has been defeated. For, first, we do not recognize usually all the bulls in the world at a time. Second, the definition is intended to resolve uncertainties about the borderline cases. It is quite possible that after seeing some bulls we may be familiar with the particular type of horns (if at all such a type exists), and then on future occasions, noticing such a particular type of horns, we may call the object "a bull". This is how, for example, the jeweller examines and differentiates a real gem from a fake one. Therefore, the procedure is a valid one, neither circular nor useless.

[1]Bhāsarvajña, *Nyāyabhūṣaṇa*, pp. 7-9

A property that is *over-extensive* in the above sense cannot be accepted as the defining property without some qualifications. How about the property or character that is neither over-extensive nor co-extensive, but, to indulge in another neologism in English, *under-extensive* (*avyāpta*), i.e., too narrow? An example that is frequently discussed is derived from the *Vaiśeṣika-sūtra* 1.1.6. The Vaiśeṣikas apply the term "*dravya*" = "substance" not only to the four elements, earth, air, water and fire, but also to such ubiquitous entities as the sky, space, self or soul, and time, as well as to mind. The above *sūtra* introduces several alternative definitions (*lakṣaṇas*) of substances (see §4.1). One that is non-problematical says, "A substance is that which has qualities (*guṇa*)." A list of qualities is then given, and in fact, it is shown that each substance (or, what is called "substance", according to them) has some quality or the other. But a problematical statement is, "A substance is that which has action (*kriyā*)." Since action is identified, in the system, with any sort of movement, it is clear that some substances, such as, the ubiquitous space or time cannot have action. Thus, if the statement is interpreted as 'whatever is a substance has action' then it would be wrong. Bhāsarvajña argues that it should mean, "Whatever has action is called a substance." This will be true, since action cannot be found in a non-substance. Bhāsarvajña insists that action, even though it is under-extensive or narrow, can be regarded as the defining character of the substance. For, its presence can still help us in determining a substance, although it cannot exclude all and only non-substances from the set of substance. This was a liberal view about the defining property, which Udayana and others refused to accept. This view supports a weaker relation between the defining property (*lakṣaṇa*) and the objects to be defined (*lakṣya*), which can be expressed as: If there is the defining property present, it is the object to be defined, but not vice versa.

Udayana argued for a stronger relation between the defining property and the objects to be defined. It is called the relation of 'co-extensiveness' or *samaniyatatva*, expressed as : There is the defining property present, if and only if it is the object to be defined. Therefore, any property, over-extended or under-extended in the above sense, will not qualify to be a defining property according to this view. This has been the prevailing

view of the later Naiyāyikas.[1] I shall discuss this view in some details below after I have raised and answered another objection against the liberal view of Bhāsarvajña. We have already seen, in the previous section, how *samaniyatatva* and 'co-extensiveness' may not be the exact parallels, although they are very similar.

Udayana criticized Bhāsarvajña as follows.[2] According to the liberal interpretation, any evidence or mark, *a*, as long as it is invariably connected with *A*, the object to be defined, will be regarded as the defining character of *A*. (I use 'evidence' as a convenient translation of *hetu* here.) Therefore, we have the following inference :

"Something is an *A* because it has *a*
And Whatever has *a* is an A, such as, the case *p*."

If this is conceded, then, Udayana argues, not only the distinction between an evidence or 'mark' (*liṅga*) and a defining character is eliminated, but also the purpose of definition is defeated. For, the purpose of definition (*lakṣaṇa*) is : either (a) to differentiate *A*'s from *not A*'s, or (b) to warrant successful application of the expression "*A*" to the relevant objects. One is called technically *vyāvṛtti*, and the other *vyavahāra*. These two can also be called the 'perlocutionary' effects of the act of definition. Now, differentiation is possible if we reach a negative conclusion on the basis of the evidence *a*, such as, "something is *not* a non-A." However, if we depend, for the required inference, upon the invariable concomitance between *a* and the property of being an *A*, and if we insist at the same time that such concomitance is derived from positive examples, (i.e., cases where both are present), then we usually obtain a positive or affirmative conclusion of the above kind ("something is an *A*"). We cannot, however, differentiate certain entities from non-*A*'s on the basis of such a mark or evidence, *a*, for *a* may not be present in some A's, according to this theory. Secondly, Udayana argues, he who has recognized some *A*'s can successfully apply "*A*" even without depending upon the recognition of *a*. And he who has recognized no *A*'s cannot apply "*A*" successfully any way.

[1] Annambhaṭṭa, p. 121. See also Staal, *op. cit.*
[2] Udayana, *Kiraṇāvalī*, p. 29.

Udayana's second objection has, I think, already been answered above by our "bull" example. Udayana's first objection can also be answered partially. For, it can be pointed out that differentiation as the purpose of definition is not defeated as long as "it is an *A*" is held logically equivalent to "it is *not* a non-*A*."

Udayana uses definition in a restricted sense, as I have already noted. Following the line of Uddyotakara and Vācaspati, he thinks that the defining property *a* should only be 'co-extensive' or 'co-pervasive' with A's, it should neither be present in any non-*A*, nor fail to be present in any *A*. In other words, the definition should avoid the fault of over-extension as well as under-extension. Therefore, an under-extensive, or narrow, but non-promiscuous (*avyabhicārin*), property like *action* cannot be regarded the defining property of substance. Besides, Udayana argues, the act of definition should make only a particular type of inference possible, not just any type. This type is called *kevalavyatirekin*, and can be illustrated as follows :

"Everything that is an *A* differs from non-A.
For it has *a*,"

where the definition sentence reads

"*A* is what has *a*."

It may seem that the above inference requires the following general statement to be true (supplying the required relation of *vyāpti* or 'pervasion' between *a* and the property of being an *A*):

"All and only *A*'s have *a*."

If this is admitted, then the inference amounts to either a tautology or periphrasis. Indian logicians have usually tried to exclude such tautologous inference from the scope of their study of inference. Udayana, however, formulates his objection to the general statement (the premise) of the above kind as supporting the above inference in a slightly different way. One of the cardinal requirements of a general statement of the *vyāpti* relation, according to *Nyāya* (in order that it may give rise to an empirical inference), is that it must be supported by an empirical i.e., existential, example, where both the properties, *a* and that of being an *A*, are instantiated. It is further required that such an example must neither be identical nor form a part of what is expressed by the subject-term of the inferred conclusion in

question. The implication of the first requirement is that the general statement must have empirical certification. The problem was implicit in both Dignāga's and early Nyāya theory of inference, as we have seen in chapter one.

The second requirement implies that this process of inference should not involve a *petitio principii*, for, we would then only beg the question if the certifying example already assumes the truth (even partially) of something which we are supposed to prove by the inference. We cannot choose as our certifying example a case that belongs to a set of cases which we intend to prove by the inference concerned. It may be noted that the Buddhists (in the post-Dharmakīrti period) allowed the required example to be part of what is expressed by the subject-term (i.e., *pakṣa*) and called the procedure *antarvyāpti*. But Udayana did not accept *antarvyāpti*.

In view of the above considerations, Udayana argues that the general statement (the *vyāpti*), to support the above kind of inference, should be formulated negatively, i.e., as follows :

> "Whatever does not differ from non-*A*, does not have *a*, e.g., the case that is *B*."

In fact, the standard five steps in the inference are given as follows (see § 1.1 before) :

> Thesis, step 1 : Everything that is an *A* differs from non-*A*.
> Reason, step 2 : For each of them has *a*.
> General rule, step 3 : Whatever does not differ from non-*A* does not have *a*, e.g., that which is *B*.
> *Upanaya*, step 4 : Everything that is an *A* has the absentee (*pratiyogin*), *a*, whose absence pervades the absence of 'difference from non-*A*'.
> Conclusion, step 5 : Therefore, everything that is an *A* differs from non-*A*.

This formulation, according to Udayana, avoids the previous objection. For, the negative general statement can easily be certified by an example that does not form part of what is expressed by the subject term. Let us take the illustration which Udayana discusses. This is what is called an inference based upon an 'exclusive' evidence—or mark (cf., *vyatirekin*), and any such exclusive evidence or mark can be regarded as the defining

property. The Vaiśeṣika used the word "earth" for every naturally solid material substance as distinct from "water", etc., and believes that smell is the natural property of such substance. Thus, it is that, earth is defined in the Vaiśeṣika system, as that which has (natural) smell. This definition, according to Udayana, will make the following inference possible :

Step 1 : Earth differs from non-Earth.
Step 2 : For Earth has smell.
Step 3 : Whatever does not differ from non-Earth does not have smell, e.g., (pure) water in this glass.
Step 4 : Earth has the absentee (*pratiyogin*), smell, whose absence pervades the absence of difference from non-Earth.
Step 5 : Therefore, Earth differs from non-Earth.

"Whatever is earth differs from such non-earth as water and air." Udayana claims that in Step 3, the example is easily available meeting the two requirements stated above. He further claims that the conclusion is here in the required negative form so that it *directly* records the 'perlocutionary' effect, viz., differentiation (*vyāvṛtti*), of the act of definition. It may be argued that the property we infer (predicate of the conclusion) is called 'difference from non-earth', and such a property is unfamiliar and, hence, unknown to us, unless we observe it instantiated in a particular earth, a pot, for instance. If we are asked to leave such a pot, etc., out of our consideration, for, they are included in the domain of what is expressed by the subject term, then we might face another difficulty. Nyāya requirement is that where we infer a property as qualifying something in an inferred conclusion, that property cannot be, prior to the inference, entirely unfamiliar to us. In other words, we must have some general acquaintance with the property before we can infer it as qualifying something else. The point is technically called the fault of unfamiliar property as the inferred predicate (cf., *aprasiddhasādhya*). I cannot infer something to be circular in shape, if I do not have even the vaguest notion of what 'circularity' is. Udayana, however, counters this objection by saying that familiarity with the property 'difference from non-earth' is to be derived from acquaintance with such individual earth, a pot or a table; and we do not beg the question here, for, the conclusion we derive is

regarding all instances of earth, including earth atoms (including also those we have not seen and will never see).

The alternative purpose of a definition, according to Udayana, is to establish the use of the word (cf., *vyavahāra-siddhi*), "earth". This is also accomplished through an inference of the above kind.

Step 1: All these things under dispute are called 'Earth'.
Step 2: For they have smell.
Step 3: Whatever is not called 'Earth' does not have smell, e.g., (pure) water in this glass.
Step 4: There is no absence of smell in these things, which absence pervades the absence of designation by the term 'Earth'.
Step 5: Therefore, these things under dispute are called 'Earth'.

Udayana's description of this type of what we may call 'negative' inference has many loose ends. Gaṅgeśa devotes a whole section of his *Tattvacintāmaṇi* to explain some of the problems, but we need not go into them here.[1] Udayana's main point, however, is that we need the negative formulations of the general statement in the above manner and, consequently, the conclusion derived would also have a negative formulation. This is due to the peculiarity of the cases discussed. In all such cases of inference we have sort of a relation of 'co-extension' or 'equivalence' not only between the property we use as our evidence or mark for the inference, and the property we infer in the conclusion, but also between these two and the extension of the subject term. If we ignore the function that an example is required to play in the Nyāya system, we might proceed as follows:

Step 1: "Whatever has *a* is an *A*."
Step 2: "All *A*'s have *a*."
Step 3: (Conclusion) "All *A*'s are *A*'s."

This is patently tautologous or repetitious, for, what is said in Step 1, is repeated more or less by the next two steps taken together. Udayana's negative formulations, it may be argued, are not at least patently tautologous in this way.

It is argued sometimes that to avoid this problem, the alternative purpose of the definition is emphasized, viz., to establish

[1] Gaṅgeśa, *Kevalavyatirekin* Section.

the use of the word (cf., *vyavahāra-siddhi*). Under this model we may rephrase the steps as follows :

Step 1 : Whatever has *a* is called "an *A*."

Step 2 : Each of these items has *a*.

Step 3 : Therefore, each of them is called "an *A*."

This, apparently, avoids the problem of patent tautology.[1] One may ask : how does the negative formulation avoid tautology? For, as we have seen in § 2.6 and § 2.7, what is different from non-A is identical with *A*. The answer is that if the same entity is presented in two or three different ways, the cognitive contents vary, which makes the inference non-tautologous.

I shall now discuss some related questions that are raised in connection with the Indian theory of definition. First, one may ask : what is the status of definition of definition (in this sense)? If each defining character (i.e., definition in our sense) is supposed to differentiate the corresponding objects to be defined from those that are not so, the defining character of definition itself must also differentiate instances of definition from non-definitions. The defining character of definition, *a la* Vātsyāyana, Uddyotakara and Vācaspati, is differentiation (*vyāvṛtti*) from objects not covered by the definition concerned. Thus, we have the following puzzle :

Each defining character differentiates, (i.e., has differentiation)

Differentiation is a defining character.

ergo Differentiation has differentiation.

Nyāya solves the puzzle by referring to many analogous situations that we admit generally. For example, mind is said to know everything, including itself. Bhāsarvajña gives a list of such situations. (see above). Therefore, we may say that

[1]What I am calling tautology is to be distinguished from the rather technical use of the term in modern logic, where any sentence that is necessarily true by virtue of its truth-functional form is called a tautology. Roughly, I am calling such sentences tautologous here as "*A* is *A*" or "*A* has *A*-ness." An inference which uses such a premise or such a conclusion is sometimes called *siddha-sādhana*.

differentiation is self-differentiating to avoid any triviality or regress to infinity.[1]

A second question is raised regarding the relationship between the defining character and the means of knowing (*pramāṇa*). We have seen above that an evidence, which is also a means of knowing an object, can be used as its defining character. Could all means of knowing be defining characters? Bhāsarvajña says that all defining characters are also evidence (or can be used as evidence), but not all means of knowing are defining characters.[2] A defining character, according to Bhāsarvajña, is what specifies the object (and in specifying, differentiates), but a means of knowing can simply give a general notion of the object; it may reveal the object without specifying.

Some may argue that the act of definition is redundant, and hence, useless as a philosophic exercise, for all knowables are established and distinguished by evidence or different means of knowing, and once this is done, definition serves no useful purpose. Udayana says that those who argue in this manner follow the policy of drinking liquor while at the same time condemning it (cf., *nindāmi ca pivāmi-ceti nyāyaḥ*).[3] For, an evidence or an inferential mark that is free from the faults of over-extension or under-extension in the manner described above is called a defining character by Nyāya, says Udayana. He concedes the point that the act of definition does not establish any new truths (or facts), but repeats what has already been established by other means of knowing. The defining act is, in this sense, called technically an *anuvāda* or repetition of what is otherwise established. But it is not, argues Udayana, purposeless. Udayana says that the function of definition in philosophy is similar to that followed in medical texts or in grammatical texts. The medical texts give the defining character of particular diseases, and the text on grammar gives defining characters of correct usage or correct speech.

How is this similarity to be understood? I suggest the following. Both medical science and grammar are examples of what can be called empirical science. A medical student observes certain

[1]Bhāsarvajña, p. 9. See note 1, p. 184 above.
[2]Ibid., p. 8.
[3]Udayana, *Kiraṇāvali*, pp. 29-30.

characteristics and then tries to identify the particular disease with the help of the definition found in the text. For, the author or the master observed the past cases and extracted certain characteristics from them and noted them in the definition to help future identification of the same disease. Similarly, the grammarians, observing the correct speech-pattern, extracted certain characteristics and noted in the text to help the student to identify such correct speech-pattern on future occasion. The student of grammar learns thereby to differentiate correct speech-patterns from thousand incorrect ones, while the student of medicine learns to distinguish one particular disease from another. In both cases, therefore, the act of definition is neither redundant nor useless. Philosophers' definitions are to be regarded, according to Udayana, useful in the same way. Students may be familiar with the object but not with its specific or unique characters, just as a medical student may be familiar with the disease but not with its specific marks, or a student of grammar may be familiar with the correct usage but not with its specific characteristics. Definition, in all such cases, is helpful in identifying and differentiating the object, the disease, or the usage, from what it is not.

The above consideration also answers the question whether definition imparts any new knowledge, or any progress in knowledge is made by definition. People may argue that a definition gives only a true proposition, and hence, an *a priori* or an analytic one (for, it is true by its meaning alone), and, therefore, it is trivial, for, it does not add to our empirical knowledge. This is reflected in such claim as is often made, for example, that such and such statement is true by definition and empty of factual content. But, if definition is understood in the above manner and as an illocutionary act with a perlocutionary effect (as I have suggested here), it will be a mistake to call it useless. An act of definition is often intended for the 'uninitiated', for whom the resulting statement is hardly trivial, and if it is already trivial for him, then there was no need for the act of definition for him in the first place. Therefore, this objection against definition arises out of a mistake by taking definition out of the context in which it appears, for, it has been conceded already that among the "already initiated" people there is no need for definition.

The Nyāya 'definition' is not related with the analysis of the

'meaning' of the word, but rather with the application of the word to *things* (and by "thing" I mean anything, not necessarily the real, the particular or the material). This may presuppose some familiarity with the thing or things to be defined, but the definition is supposed to make the hearer understand the things defined better by helping him to distinguish them from others. Philosophers have sometimes called this to be a transition from having a *clear* idea to a *distinct* idea. One has, for example, a clear idea of a thing when one can recognize an example of it, but one has a distinct idea when one can understand its distinctive feature and distinguish it from others.

Nyāya sometimes accommodates what we call lexical definition. For, it has been argued by both Uddyotakara and Vācaspati under *Nyāyasūtra* 1.1.15. that supplying proper synonyms is also another respectable way of supplying a definition. The *sūtra* gives two synonyms to define *buddhi* 'consciousness'. Uddyotakara explains that the object (*padārtha*) expressed by these two synonymous words is called *buddhi* 'consciousness'. One may argue: How can a synonym supply a definition? Uddyotakara answers :[1]

> It is so in so far as it helps to differentiate (the object from the rest). For, all definitions differentiate the object from the rest. As long as these synonymous words do not apply to other objects, they express the unique property that can be the defining property.

Even Socrates seems to have approved sometimes a definition where the logos is interpreted as that in which the thing differs from all other things. In other words, definition in such cases is the effort to differentiate and distinguish.[2] This is the closest he came to the Indian idea of a definition.

Definition of the kind that Indian philosophers accept need not amount to the search for the essence of the thing. For Aristotle, as is well-known, definition was the statement of the essence of a thing.[3] A property is distinguished from essence by Aristotle in *Topics*, 1.5. It is a predicate that does not indicate the essence of a thing, yet it belongs to that thing alone, and is

[1]Uddyotakara, p. 436.
[2]Robinson (1953), p. 56.
[3]Aristotle, *Topics*, I. 5.

predicated convertibly of it. Such a distinction is useless for the Indian Theory of definition, for, obviously any unique property (unique in the sense that it belongs to the thing alone) can be regarded as the defining property or definition. It has also been suggested, as I have already noted, that if the thing to be defined has more than one unique property, there can then be several alternative definitions. It is not usually allowed, even by those who admit the essence of things, for a thing or a set of things to have more than one essences.[1] However, the doctrine of essence, as a metaphysical reality, does not have many proponents in the West today. It is often asked, as it should be, why it is essential for man to be a rational animal, and quite accidental for him to be a featherless biped. Essence under such criticisms levels down to our own stipulations, i.e., what meaning we choose to assign to a word as its primary or principal meaning. And this then becomes a Humpty Dumpty way of choosing an essence.

If by 'essence' of a thing *F* we mean a property by which it is what it is, then the nearest equivalent of an essence in Indian terminology would be a *svabhāva* 'own being' or 'own nature'. The Ābhidhārmika Buddhists say that the 'own being' of fire is heat and that of water is coldness. In this system, obviously, the essence (own-being) of a natural kind is one and not many, and, accordingly, the Ābhidhārmikas say that even the *lakṣaṇa* or defining property of fire is heat. It is for this and other reasons, the Abhidharma can be construed (in my opinion, wrongly) as a

[1]See note 3, p. 181 above. Also consider the following :

Can an act of definition amount simply to supplying a list of instances of what is being defined ? Socrates rebuked his interlocutors on several occasions for answering questions of the form "What is *x*?" with enumeration of instances. This criticism of Socrates may imply that since the Socratic definition "calls for a single formula" even a complete enumeration of objects or kinds of objects falling under the concept will not do. The Sanskrit philosophers use the term *śṛṅgagrāhaka* to express a somewhat similar operation, where instead of giving a defining character, a list of instances is given. This activity, as the name indicates, is probably a way of answering "What is a bull ?" by pointing them out by seizing (*grahaṇa*) their horns (*śṛiṅga*). The touch of humour shows probably that the Indian philosophers, while they did not think it to be a wrong procedure, certainly consider it useless or impractical. An exhaustive enumeration of kinds is called, however, *uddeśa* or *uddeśa* and *vibhāga*. We may recall that the Nyāya commentators argued that the purpose of this operation may not coincide with that of the act of definition.

form of 'essentialism', and hence Nāgārjuna has directed his relentless criticism against such an interpretation of Buddhism, but we cannot go into that problem here (§ 4.5 below).

Another possible equivalent of the word "essence" would be the real universals, such as, the so-called waterness of water, spoken of by the *Nyāya-Vaiśeṣika*. In this theory also there is only one essence, say cowness, belonging jointly to all and only such objects as are called "cow". The doctrine of real universal, however, has a number of difficulties that are not easily answerable. Besides, if we correlate essence with the real universal (*jāti*), we may unsuspectingly allow that as long as the *Nyāya-Vaiśeṣika* is committed to say that 'existence' (=*sattā*) is a real universal, it is also committed to say that if a thing exists, it exists essentially. This will raise a host of problems which we shall be well advised to skip in the present context. (See § 5.5)

A word in our ordinary language very seldom has only one sense. In fact, all words are more or less ambiguous. Most words, even important words, are loosely applied to not only different things, but also to different types of things. Using such and other considerations, Wittgenstein and his followers have argued that words like "game" are applied to a variety of items so that there may be only some 'family resemblance' among them, but there is no unique property characterizing all of them.[1] This, however, poses a more serious objection to the philosophic enterprise that I have called definition here. If there is no defining property to be found, the act of definition would be impossible. But I think the notion of family resemblance can be effectively directed against the doctrine that holds universals as real entities or against the notion of essence. The same consideration, however, need not ask us to reject the philosophical enterprise of definition. For, a definition can be both stipulative and legislative. A philosopher might wish to narrow down the use of a particular word to such an extent that it would not apply to very disparate types of things and its metaphorical and extended uses would be ignored. In the course of doing so, he might find some recurring aspect (or, even, aspects) of the things to which it is applied (not necessarily the essence, however) and then he can proceed with his definition, using such

[1]Wittgenstein, *Philosophical Investigations* pp. 66-67.

an aspect. I wish to emphasize that the Indian theory of definition may be understood as being neutral to such other philosophic worries—the doctrine of essence, the doctrine of universals as real entities, the problem of abstract entities, the problem of populating the world with unnecessary entities—and not being afraid of the "razor" of Ockham. Such philosophic worries, of course, do exist, but in justifying and following the philosophic act of definition in the above manner, we need not be entangled and baffled by them. The problem is one of finding a unique characteristic or trait in an object, or a group of objects to which, or to each member of which, a term applies.

Am I not trying to avoid the important philosophic issues, the question of ontology, etc., while talking about definition? Perhaps I am. But I submit the following consideration. We sometimes become aware of a new general element, a form or a pattern in our experience. Such awareness, whether we always give it a name or not, is helpful in interpreting many future experiences. When we give it a name and use it in a discourse it is called the process of abstraction. And in this process, perhaps, we try to extract the inextractible from experience. But it is undeniable that the process is helpful for further progress in knowledge and teaching.

Discussion of 'essentialism' has been revived In modern times, and, of course, it has a direct relation with the theory of definition. The nominal definition deals with *meanings*. Hence, modern philosophers (such as, Quine), who have misgivings about the ontological status of meanings and intension, would find even in nominal definitions "vestiges of essentialism". For, "meaning is," according to them, "essence divorced from the thing and wedded to the word." In fact, in our talk of a distinction between a real and nominal definition, Quine sees what he calls "the old vacillation between sign and object." The distinction that is usually found in the dictionary between meaning and colateral information is, in the light of this view, a reflex of the old distinction between essence and accident, and to say that a definition should be analytic is also to yield to "essentialism". This philosophical stance recommends that, ideally, the domestic dictionary definition should be of each of only those words that are "unclear" in terms of words of "higher frequency", and

there will be a set of words of highest frequency which would go undefined (for, presumably, they are clear).[1]

Quine's fear of 'essentialism' seems to be overstressed. For, it is not always clear what is it that he wishes to avoid talking about. And what is more problematic is that in his attack he wishes to tie all the three concepts together : essence, analyticity and necessity. Although Quine goes to the extreme in his rejection of essentialism (it was "conceived in sin", he says), it should be noted that he allows, for the sake of science, what I would call some minimal form of 'essentialism'. He calls it "a respectable vestige of essentialism" which he would like to keep. It consists "in picking out those *minimum distinctive traits* of a chemical, or of a species, or whatever, that link it most directly to the central laws of science" (p. 52, emphasis mine). Gaining knowledge and imparting that knowledge to others are important parts of the activity that we call 'science' (apart from its predictive aspect). Such activities can hardly proceed successfully and effectively, unless we have available to us a mechanism that allows us to pick out "distinctive traits" of the items that we intend to study. The distinctive traits of a chemical are important in chemistry, that of a species in biology, and that of a disease in medical science (and this does not seem very different from the function of a definition or *lakṣaṇa* that Udayana had in mind, see above).

What seems to me to be the issue in Quine's empiricism here is that we need to make a distinction, at least, provisionally between what is considered (wrongly, for there is no such thing or we need not accept such a thing, according to Quine) an essence and which are unique properties, or distinctive traits or features. Essence carries a metaphysical overtone (it is regarded as something that is supposed to make a thing what it is)—which modern empiricists (Quine uses the term "new empiricism" or "empiricism externalized" to distinguish it from the views of Locke *et al*) would like to avoid. Distinctive or unique features are, presumably, empirically recognizable or identifiable, and, hence, fall within the domain of knowledge and so can be depended upon and be allowed to contribute to the progress or propagation of science.

[1]Quine's attack on "essentialism" is well-known. Quotations here are from his "Vagaries of Definition" as well as from "Two dogmas of empiricism" in *From a logical point of view*. p. 22.

Modern interest in some form of "essentialism" stems from Kripke's theory of meaning and rigid designator.[1] What seems relevant to our problem here is, however, that the new semanticists, Kripke and Putnam, have argued that even the common names, the names for putative natural kinds, like "gold", can be used as rigid designators. Putnam shows that Quine's pessimism may be allowed as far as the utility of the traditional notion of meaning is concerned.[2] If a general term like "gold" is given an analytic definition with the help of a conjunction or cluster of properties, then it is not very illuminating. However, Putnam argues, it is possible to empirically determine certain "core fact" about such natural kind terms as "lemon" or "tiger", or to tell *what a tiger is*, or to teach how a "tiger" is to be used. Similarly, Kripke has argued that "gold" rigidly designates the element with atomic number 79. It seems to me that Quine's talk of natural kinds and "minimal distinctive traits" of chemicals is not incompatible with, at least, part of what Kripke and Putnam try to justify here as some form of essentialism, and this "part" will be, in Quine's language, a "respectable vestige". A sort of scientific realism about natural kinds is, perhaps, the "common core" among the divergent views of modern empiricists, and I do not see that "common core" to be in discord with the spirit of Nyāya realism and its theory of *lakṣaṇa* or definition.

Putnam says that it is not a defect of dictionaries to give, for example, colour-samples and stray ("chatty" in Quine's expression) pieces of information and not to distinguish them from "purely linguistic" information, for, this is "essential to the function of conveying the core fact in each case." Nyāya considers giving synonyms (cf., *NS* 1.1.15), or samples or other empirical criteria ("cow" is defined with the help of its *dewlap*, "pot" or "vase" is defined by a particular shape, *kambugrīvādi*)—all part of the act of definition or giving *lakṣaṇa* as long as it helps us to distinguish the objects or learn the use or application of the word to objects (*vyāvṛtti* or *vyavahāra*).

[1]S. Kripke, "Identity and Necessity," in Sehwartz, S. P. *Naming, Necessity and Natural kinds*, Ithaca, 1977. Also "Naming and Necessity," in Davidson and Harman's *The Semantics of the Natural Language*, Dordrecht, 1972.

[2]H. Putnam "Is Semantics Possible ?" pp. 111-8 (in Schwartz, S.P.).

No matter in which way we may resolve the problem of the traditional essentialism (some philosophic problems have hardly any agreed solution, and such "unsolvable problems are not for that reason unreal"), it is arguable that the Indian (Nyāya) definition will not be seriously condemned by moderners. Modern "essentialists" may maintain that the definition sentences are synthetic (being empirically discoverable), but, nevertheless, necessary. As long as we can argue that there may be some *unique* (*asādhāraṇa*) property or characteristic or aspect of a set of things or objects or items—aspect that is discoverable by experience but not necessarily by experience—we can formulate definition or *lakṣaṇa* of the term that is supposed to denote the set of items concerned. Our problem arises when we raise such questions as whether this unique property is also to be essential or necessary. Nyāya empiricism claims that the unique property need not always be the essential property, if "essential property" means what makes the thing (say, a tiger) what it is. We may define, following the Nyāya principle, a tiger by the black-marks on the yellow skin, and a cow by its dewlap. But certainly it is not believed here that the essence of a tiger is its black-marks or that of a cow is its dewlap. To wit : Nyāya does not identify cowness with the property of having dewlap, or tigerness with that of having black-marks.

By admitting that a unique property may be given by experience, we have admitted what I call the Nyāya fallibilism. Some *lakṣaṇas* are easy to formulate within some given contexts. Bankimchandra's Kamālākanta, for example, recognized, i.e., defined, or identified, a cow by the particular taste of her milk, and a lawyer by his gown. (In Kamalākānta's world no other person wore gowns). True, such definitions may be fallible, for, one can always be tricked or mistaken, in the last resort tricked by Descartes' evil genie or by Putnam's Martians. Putnam has argued that it is possible that the cats we see are only Martian robots and the black-marks on tigers are only black paint; and if we do discover these facts some day, even then we would not say that cats are not cats or tigers are not tigers any more, but we would simply conclude that "cat" and "tiger" have changed their "meanings". I think Nyāya would readily agree with this point. But if one has to choose between fallibilism and the impossibility of formulating a *lakṣaṇa* or definition, it is not a bad

idea to choose the first. For, the other alternative is a message of despair about formulating any definition. If we have to give up definitions, we may be asked to stake the claim that the words we use in philosophy (or, in any systematic discourse) have precise *meanings* more often than not. If we give up this claim, we may be invited to the game of the Alice-in-the-Wonderland croquet to roll those concepts with mobile hoops.

CHAPTER THREE

PROBLEMS OF KNOWLEDGE AND PERCEPTION

§ 3.1 : AWARENESS AND KNOWLEDGE

It would be useful to begin with a note about translation. *Pramāṇa* (along with its possible interpretation as *pramā*) is a very important term in Indian philosophy. The sense of the word seems to be so comprehensive in some contexts and so limited in other contexts that it defies all our attempts at finding a happy English translation. The same is true of another term, *jñāna*, which is related to *pramāṇa*. I use the term 'cognition' to translate the Sanskrit *jñāna* and 'true cognition' to translate *pramā*. This is, however, purely arbitrary. I shall often use 'truth' to translate the Sanskrit *pramātva*, which is one of the two senses of *prāmāṇya* and in this I shall follow J. N. Mohanty. The term *pramāṇa* will frequently appear here without a direct translation into English, when it means simply various instrumental causes leading to true cognition.

It was most probably the Mīmāṃsakas who started thinking seriously about the question : How do we apprehend the truth pertaining to a cognition which may arise from various sources and come to us through various means and media ? This was the central theme of the *jñapti* section of the *Prāmāṇyavāda* of Gaṅgeśa.

The above question was quite pertinent to the early Mīmāṃsā system which sought to establish the indubitable validity and authority of the Vedic scriptures. Scriptural statements are only

statements (forms of speech). It was held that cognitions derived from such statements should be intrinsically true. Thus, it was claimed by the Mīmāṃsā that speech (or *śabda*) has the unique power of generating cognitions which present objects of the past, present, and future, gross and subtle, remote and near. Other *pramāṇas*, such as perception, do not enjoy this unique power which *śabda* (speech) possesses.[1] To maintain the absolute validity of the Vedas it was further claimed that cognitions arising from speech are to be accepted as true as long as there is no defect (physical or intellectual) of the speaker concerned or as long as there is no contradiction (*bādha*). Thus, falsity of a cognition arising from a statement is always found to be due to some defect of the person making such statements.[2] Now, as the Mīmāṃsaka claims, if there can be any *impersonal* statement, or a series of statements, which does not belong to any person or human being, we can say that cognitions arising therefrom will be necessarily true. The Vedic texts are revealed texts, according to the Mīmāṃsakas; they are *a-pauruṣeya*, that is, they do not come from any person. Hence, the early Mīmāṃsakas claimed that the Vedas are eternal, and cognitions derived from Vedic statements must be intrinsically true. This philosophical position was later developed in the following manner : All types of cognition are to be accepted as true unless and until they are proved otherwise. Almost all the schools of Mīmāṃsā accepted this philosophical thesis and justified it by claiming that we apprehend the truth of a cognition along with our apprehension of the cognition itself without depending upon any extrinsic condition. This, in short, was called the *svataḥprāmāṇya* theory of the Mīmāṃsā system. The origin of this theory can be traced as far back as Śabara.[3]

Navya-nyāya writers have connected the *prāmāṇya* theory (i.e., the theory of the apprehension of truth) with another theory called *prakāśa* (the theory of the apprehension of cognition itself), and has given a fourfold classification based upon their possible

[1] "*Codanā hi bhūtaṃ bhavantaṃ bhaviṣyantaṃ sūkṣmaṃ vyavahitaṃ viprakṛṣṭam ity evaṃjātīyakam arthaṃ śaknoty avagamayitaṃ nānyat kiñcanendriyaṃ.*" *Śābara-bhāṣya* on *Mīmāṃsā-sūtra* 1.1.2

[2] Cf. "*tasmād yasya ca duṣṭam karaṇaṃ yatra ca mithyeti pratyayaḥ sa evāsamīcīnaḥ pratyayo nānya iti.*" *Śābara-bhāṣya* on *Mīmāṃsā-sūtra* 1.1.5.

[3] Thus, note the following statement : "*vipratiṣiddham idaṃ ucyate vraviti vitathaṃ ceti.*" *Śābara-bhāṣya* on *Mīmāṃsā-sūtra* 1.1.5. See also the remark quoted in n. 2, p. 205.

combinations. Following Kumārila Bhaṭṭa[1] it is possible to suggest a parallel and equally useful classification of conflicting theories regarding the apprehension of truth and falsity in Indian philosophy :

(1) Truth is apprehended intrinsically (*svataḥ*), but falsity is apprehended through some extraneous means (*parataḥ*).

(2) Both truth and falsity are apprehended intrinsically (*svataḥ*).

(3) Both truth and falsity are apprehended through some extraneous conditions (*parataḥ*).

(4) Falsity is apprehended intrinsically (*svataḥ*), but truth is apprehended through extraneous means (*parataḥ*).

The first view is that of Kumārila Bhaṭṭa as well as of the other Mīmāṃsakas. The second view is ascribed to the Sāṃkhya system. Although this view appears to be quite consistent with the Sāṃkhya theory of *satkāryavāda*, according to which nothing can be newly generated unless it exists potentially in its cause, yet I do not think this view of *prāmāṇya* has been explained or explicitly referred to in any available text on Sāṃkhya. Nor did Kumārila mention the name of Sāṃkhya when he described this view.[2] Mādhavācārya, in his *Sarvadarśanasaṃgraha*, identifies this view as belonging to the Sāṃkhya system.[3] The third view belongs to the Nyāya system. The Naiyāyikas gradually became the formidable opponent of the Mīmāṃsakas on this particular point of the apprehension of truth and falsity of cognitions. This is well evidenced by the writings of Gaṅgeśa and his followers. Regarding the last view, we are again in doubt about its origin. According to Mādhavācārya, this is the view of the Buddhists.[4] But we do not know which branch of Buddhism adhered to this view. Kumārila elucidated this position as follows. Falsity, being an absence of truth, is not an object (*vastu*), that is, not a real item which can be caused or produced. It is on a par with the fictitious rabbit's horn (§ 2. 2). Truth, being a *vastu* (object), should be produced

[1]*Mīmāṃsā-Śloka-vārttika*, *codanā-sūtra* 2, verses 33-61 (Benares : Chowkhamba, 1898).

[2]"*Svato'sātam asādhyatvāt kecid āhur dvayaṃ svataḥ.*" Ibid., verse 34ab.

[3]"*Pramāṇatvāpramāṇatve svataḥ Sāṃkhyāḥ samāśritāḥ.*" *Sarvadarśana-saṃgraha* (Poona, 1951), p. 279.

[4]"*Saugatāś caramam svataḥ*". Ibid., p. 279.

by some real cause. But Śāntarakṣita rejected all these four positions. Kamalaśīla, while commenting on Śāntarakṣita, elucidated the position of the Buddhist as the fifth possibility.[1] According to this view, both truth and falsity can very well be intrinsic in one case and extrinsic in another. In the case of our first acquaintance (*anabhyāsadaśā*), that is, in the case of a new cognition, truth and falsity should be apprehended extrinsically. In other words, we depend on an extraneous condition for confirmation or disconfirmation of such cognitions. In the case of our repeated acquaintance (*abhyāsadaśā*), however, truth or falsity of cognition becomes intrinsically known. For example, because of our repeated acquaintance, the truth of such cognitions as "water will quench our thirst," and falsity of such cognitions as "the conch shell is yellow," will be revealed automatically with the cognitions.

A few words on the *prakāśa* theory—the theory of the apprehension of an instance of cognition—may be in order. The main problem under consideration here is "How do I know that I know ?" In order to precisely understand what the Indian philosophers meant by raising and suggesting possible answers to this philosophic question, we should keep in mind that some philosophers hold cognition itself to be a perceptible object. However, they differ as regards the nature of the perception of an instance of cognition. There are yet other philosophers who maintain that cognition is not at all a perceptible object. We know a cognitive event through inference.

Śālikanātha, an exponent of the Prābhākara Mīmāṃsaka school, holds that cognition is self-revelatory (*sva-prakāśa*) in the sense that a cognitive state in the form 'I know this' always reveals not only the object expressed by "this" but also the knowing subject as well as the knowledge in question. Thus, 'I know this' becomes logically equivalent to 'I know that I know this.' On the analogy of light revealing also the light itself, 'reveal' is claimed to be a reflexive relation when applied to knowledge. The Vijñānavāda school of Buddhism also regards cognition as self-revelatory, but they maintain that a cognitive state reveals nothing but itself. Their

[1]Cf. *na tu bauddhair eṣāṃ caturṇām ekatamo 'pi pakṣo' bhiṣṭo niyamapakṣasyeṣṭatvāt. Tathā hi ubhayam apy etāt kiñcit svataḥ kiñcit parataḥ iti pūrvam upavarṇitam." Tattvasaṃgrahapañjikā* under verse 3123, p. 811. For Śāntarakṣita's critique of different *prāmāṇya* theories, see *Tattvasaṃgraha* (Baroda, 1926), verses 2813-3123 (vol. II).

philosophical conviction has been understood to be that there is no other reality but a series of cognition-moments or cognitive states. The so-called object of cognition is nothing but the cognition itself *appearing* (for some metaphysical reason, to be sure) as the object. Thus, we may say that 'reveal' operates, according to Vijñānavāda, as a totally reflexive relation (see my *Perception*, Ch. 4.) The Advaita Vedānta also holds to the doctrine of self-revelation of cognition, but I shall not discuss their position here.

Śālikanātha argues that if cognition is not admitted to be self-revelatory, then it should not be credited with the revealing of objects. This would imply that revelation of any object is impossible, and consequently, our *vyavahāra* (verbal behaviour) with regard to an object or reality would be impossible. Śālikanātha concedes that under this theory each cognition will be of the nature of perception insofar as the cognition apprehends itself. Thus, the classification of cognition into perception, inference, and so on, operates only with regard to the objects (*prameya*). All instances of cognition are perceptually revealed to the cognizing subject.[1]

The Nyāya system maintains that cognition is by nature a perceptible object. We perceive a cognitive event by an inner perception, technically called *anuvyavasāya*, which arises in the wake of the first cognition. In other words, if K_1 is a cognitive state which apprehends an object *a* and K_2 is another cognitive state which apprehends K_1, then $K_1 \neq K_2$. It is, however, conceded that K_2 may not happen at all after K_1 in some cases if any counteracting situation (*pratibandhaka*) develops. This theory is called *parataḥ-prakāśa,* which means that cognition is not self-revelatory. For the Sāṃkhya-Yoga system too, cognition is not self-revelatory. According to them, a cognitive state is a modification of *buddhi*, and it is perceptually cognized by pure consciousness (*caitanya*) which constitutes the essence of a *puruṣa* (soul). (See § 3.3)

To oppose the Vijñānavāda school of Buddhism, Kumārila Bhaṭṭa (with whom the Bhāṭṭa school of Mīmāṃsā started) maintains that cognition is by nature imperceptible. Kumārila also supports the theory that cognition is not self-revelatory, but in a quite different sense. He asserts that a cognitive state is inferen-

[1]See Śālikanātha, *Prakaraṇapañcikā* (Benaras : Banaras Hindu University, 1961).

tially cognizable only through a property called known-ness (*jñātatā*), which an object of cognition acquires when cognized.

The *prakāśa* theory of the Indian philosophers seems to contain some valuable philosophical insights, and a detailed analysis of different theories regarding this problem may be as useful as the analysis of the *prāmāṇya* theory. However, I must add here, quoting a remark of Professor Mohanty (see *Preface* to his *Gaṅgeśa's Theory of Truth*) that one must also "know where to draw the line between what is living and what is dead, a task which has yet to be done with regard to much of Indian philosophy."

The Prābhākaras maintain that all cognitive states are necessarily true. Following Rāmānujācārya, Mohanty discusses three different kinds of truth, *yāthārthya*, *prāmāṇya* and *samyaktva*. The test of *samyaktva* is the absence of contradiction in practice. The revival of memory (an episode of remembering a past experience) is not accepted as a *pramā* (a piece of knowledge) in any Indian school of philosophy except the Jaina school. I shall deal with this problem in Ch. 3.4. Some historical remarks might be added in this connection. The almost proverbial ambiguity in the use of the term *prāmāṇya* by the ancients might have been responsible, to some extent, for the attitude of the philosophers who refused to accept memory-cognition as a separate *pramāṇa*. *Pramāṇa* sometimes meant an authoritative source of knowledge, sometimes simply an authority. Some kind of independence is usually attached to the notion of authority. A memory-cognition or remembering is nothing but a reproduction of some previous experience, and the causal conditions which produced the previous experience are not necessary for this reproduction. Thus, if the previous experience was an authority, the memory reproduction would only be a copy of such authority. In other words, "authoritative" will only be a transferred epithet when applied to the memory reproduction of a previous experience. Realization of this sort of difference between memory and direct experience prevented the ancient writers from calling memory a *pramāṇa*. Later on, it crystallized simply into a matter of linguistic decision. Thus, Vācaspati makes the right point when he says that the relation of word to its meaning is conventionally established through public usage (*lokavyavahāra*), and since *pramāṇa* is not used to include memory (*smṛti*) we should not call memory a *pramāṇa*.[1] I have noted that in the

[1]See *Nyāyavārttikatātparyaṭīkā*, Kashi Sanskrit Series, 24 (Benaras, 1925), p. 21, lines 3-6.

Jaina tradition memory is accepted as a *pramāṇa*. The Jaina philosophers began discussions of the *pramāṇa* theory at a relatively later period, and they were right in exposing the vulnerability of the position which maintains that memory-cognition cannot be claimed to be true (*pramā*). If perception and inference are regarded as true, because of their agreement with facts (*saṃvāda*), then a memory-cognition, when it agrees with fact, cannot be denied that privilege.[1] It should also be noted that those philosophers who were reluctant to accept memory as a *pramā*, implicitly admitted that memory can very well be correct when it reproduces a true experience. In any case, a more detailed and critical examination of the controversy over whether or not memory is a *pramāṇa* may give us more insight into the exact meaning of the term *pramāṇa* (§ 3.4 following).

The Prābhākara account of error makes a very interesting study in contrast with the Nyāya theory of error. For the Prābhākaras there is no error in our cognitive states. The so-called error consists in our non-apprehension of the fact that two cognitive events (or the two cognized objects) are not related (*asaṃsargāgraha*). Thus, to mistake is to miss something, namely, unrelatedness (*asaṃsarga*), and not to take or grasp anything wrongly. Thus, when we mistake a rope for a snake, we have two cognitive states: the one which refers to the rope is presented by perception, and the other which refers to the snake or snake-ness is presented by memory. Error consists in our *not* seeing their difference. Even when a conch shell appears yellow to one's jaundiced eyes, the yellow colour actually belongs to the disease, that is, jaundice in the eye, and not to the conch shell, which lies outside our body. Our error, in this case, consists in our missing this disconnection of the two objects, conch shell and the yellow colour. This account of error is opposed by the Nyāya theory. The Nyāya takes a positive attitude and maintains that we directly perceive the wrong thing which is not really present in our field of perception. Our wrong perception may be aided sometimes by memory, and sometimes by the diseased or defective sense-organ. But the resulting cognitive state is one whole where we *actively* connect (or construct a connection between) two different objects, instead of *passively* failing to notice their unrelatedness or disconnection.

[1]See Hemacandra, *Pramāṇamīmāṃsā* (Ahmedabad, 1939), pp. 33-34.

It may be that for the Nyāya theory the model was the typical rope-snake example, where there is a psychological basis (viz., intervention of memory or the snake-idea) for error, while for the Prābhākara theory the model was the case of a defective or diseased sense-organ, where there is a physical basis for error. Thus, for the Nyāya it was, to begin with, the misconstruction of a relation, whereas for the Prābhākara it was a mechanical failure obscuring the factual disconnection. But both theories were extended and modified to cover all patent as well as recalcitrant cases of error.

Mohanty has given a penetrating explanation of the Nyāya conception of *jñāna*.[1] The postulate of *nirvikalpaka* perception, that is, prejudgmental cognitive state, was associated with a number of important philosophical problems. The controversy over this seems to have started with Dignāga (ca. 500 A.D.), although the definition of perception stated by Gautama (ca. 100-200 A.D.) in *Nyāya-sūtra* 1.1.4 was, under the simplest interpretation, applicable more directly to our sense-perception rather than to our perceptual judgment. The peculiar interpretation of *Nyāya-sūtra* 1.1.4 offered by Vācaspati Miśra (ca. 900 A.D.) was at best an innovation, as evidenced by Vācaspati's own remark that although the explanation he offered was not to be found in the earlier commentary of Vātsyāyana (ca 350 A.D.) or in the sub-commentary of Uddyotakara (ca. 600 A.D.) he had followed his own teacher (*guru*) Trilocana in this matter.[2] Thus, the clear-cut classification of perception into non-judgmental (*nirvikalpa*) and judgmental or constructive (*savikalpa*) was an aftermath of Dignāga's criticism of the Nyāya theory. For Kumārila Bhaṭṭa (ca. 625 A.D.), a prejudgmental cognitive state is the direct grasp of the reality without differentiation and conceptualization. This cognitive event is held to be psychologically prior to our perceptual judgment.

The Nyāya-Vaiśeṣika writers like Vācaspati and Śrīdhara followed mainly Kumārila in their exposition of the pre-judgmental state. But in Navya-nyāya, the status of this non-judgmental cognitive state is reduced to a logical construction. According to Navya-nyāya, the non-judgmental cognitive state is never revealed to us, that is, never apprehended by our inner per-

[1]See J. N. Mohanty : *Gaṅgeśa's Theory of Truth*, pp. 25-37. See also Matilāl : *The Navya-nyāya Doctrine of Negation*, pp. 6-21.

[2]See *Nyāyavārttikatātparyaṭīkā* (Benares, 1925), p. 133, lines 9-15.

ception or reflective awareness (*anuvyavasāya*). Thus, its content is not describable in words because, unless a cognitive state is revealed to us (by inner perception or by any other means), there cannot be any *vyavahāra* or verbal behaviour (such as communication through speech) with regard to it. In simple language, although this cognitive state has a content (because a content-less cognition would be meaningless for Nyāya) it is not expressible in words. Again, the content of this cognitive state does not admit of any philosophic analysis because it is only our inner perception (*anuvyavasāya*) that gives us the datum for such an analysis, and it has already been stated that the non-judgmental cognitive state does not admit of such inner perception. Since all this amounts to saying that the non-judgmental cognitive state is never *known* to us by our inner perception one can very well entertain doubt with regard to its actual occurrence. To answer this doubt, Navya-nyāya gives the following argument: A constructive or judgmental cognitive event, namely, a perceptual judgment of the form 'that which is characterized or qualified by *p*,' presupposes a cognition of the qualifier *p*. This rule is evidently based upon the common experience that in order to know something white one must first cognize what white colour is. Thus, a perceptual cognition which describes something as a pot, that is, which in Nyāya analysis attributes pot-ness to something, presupposes a logically prior cognition of pot-ness. If this logically prior cognition of potness is not presented to us by any other means, we have to admit the hypothesis of its being presented by perception.[1] In the case of our first (perceptual) acquaintance with a pot, the required cognition of pot-ness is not present at the previous moment. Only the conditions for the preception of pot-ness as an object can be said to be present in the given situation. Therefore, our cognition of the attribute pot-ness must be a perceptual cognition in this case.

There is, thus, a shift of emphasis in the Navya-nyāya theory of non-judgmental perception. This is not exactly the same as what is called *ālocanajñāna* in Kumārila's theory. We arrive at this cognitive state by a process of logical construction described above. Following a similar logical argument, it is proved that

[1]Cf. Gaṅgeśa : "*prāthamikaṃ gaur iti pratyakṣaṃ jñānaṃ janya-viśesaṇa-jñāna-janyaṃ janya-viśiṣṭa-jñānatvāt anumitivat.*" *Tattvacintāmaṇi*, Part I, Bibliotheca Indica (with Māthurī) (Calcutta, 1888), p. 817.

this non-judgmental perceptual state is by nature not amenable to inner perception or reflective awareness (*anuvyavasāya*), and thus its content is never revealed to us. This position is quite consistent with the Nyāya theory of knowledge, according to which, not all our cognitive states are necessarily revealed to us, that is, cognized by us.[1] Thus, a cognitive state is perceptible (*pratyakṣayogya*) but may not be perceived if all the causal conditions are not present, just as a pot is a perceptible object but may not be perceived if it is hidden from the eye. The content of a non-constructive perceptual state can only be inferentially established because such a perceptual state itself is, in Navya-nyāya theory, a matter of logical presupposition, rather than a discernible psychological event. Besides the elaborate Navya-nyāya argument to show that a non-constructive perceptual state is never perceived, the very attempt to accord a logical status to this perceptual state springs from the feeling that the existence of such a perceptual state can never be proved by our inner perception or reflective awareness (*anuvyavasāya*). In other words, the non-perception of such a perceptual state follows from its very definition in Navya-nyāya. When it is explained in this way, we can be in a position to answer the charge of obscurity brought by Mohanty against the Navya-nyāya "metaphysician." He remarks: "Though, however, the contents of *savikalpa* become objects of reflective awareness, the contents of *nirvikalpa* do not,—a fact, for the explanation of which the metaphysician could only postulate some obscure *pratibadhya-pratibandhaka* relation" (p. 34). In spite of some obvious difficulties involved in the notion of a non-constructive cognitive state, I believe that one can give a reasonably good explanation of this notion in Navya-nyāya following Gaṅgeśa's remarks in the *Nirvikalpakavāda* of his *Tattvacintāmaṇi*.

It might be useful to add a few words further to clarify the Navya-nyāya concept of a construction-free perception. It is conceded that there are certain simple irreducible objects which are perceptible but which can only be perceived through our constructive perceptual state. Thus not all elements which form the content of our constructive or judgmental perception are necessarily perceived at our non-constructive state. An *abhāva*, that is,

[1]Thus, cf. Gaṅgeśa's remark : "*vitter avaśyavedyatvābhāvenānavasthāvigamāt.*" Ibid., p. 798.

the absence of a pot, which is an irreducible entity in the ontological scheme of the Nyāya-Vaiśeṣika school, is perceived only in our constructive cognitive state. It can never be an object of our non-constructive perception.[1] It is even conceded that constructive (*savikalpa*) and non-constructive (*nirvikalpa*) states should better be explained as qualificatory (*saprakāraka*) and non-qualificatory (*niṣprakāraka*) states respectively. Gaṅgeśa seems to allow that even the same cognitive state may be partly qualificatory and partly non-qualificatory, that is, partly constructive and partly non-constructive.[2] Thus, the same visual perception of a cow is qualificatory from the point of view of the individual cow (which is perceived) because cow-ness or cow universal appears as qualifying the cow; and it is non-qualificatory from the point of view of cow-ness (which also forms the content of perception) because nothing appears as qualifying cow-ness. The property of being constructive in character and that of being non-constructive in character are not two mutually exclusive properties like two natural class characters, such as cow-ness and horse-ness. In other words, the same individual cannot be both a cow and a horse, but the same cognitive event can be both in part constructive and in part non-constructive.[3] From another point of view, the non-constructive cognition is said to be neither true nor false because truth and falsity, in Nyāya theory, can only apply to a constructive state. This falsifies the idea that the Nyāya theory of truth needs only an agreement or correspondence between the content of a cognition and the reality. The content of a non-constructive perception may very well be said to agree with the reality, but for Navya-nyāya such a perception is neither true nor false. The question of truth and falsity arises when and only when the cognitive state is propositional, that is, qualificatory. If the qualifier which appears in the cognition as qualifying some thing x also qualifies that x *ontologically* or in reality, then the cognition is true; otherwise it is false.

Mohanty's brief reference to the "total unanalysable *viṣayatā*" pertaining to a non-erroneous cognition is also very important

[1]See Gaṅgeśa : "*ata evābhāve na nirvikalpakam....*" Ibid., p. 822.

[2]See Gaṅgeśa : "*gaur iti savikalpakam api gotvāṃśe nirvikalpakam eva tatra prakārābhānāt bhāne vānavasthā nirvikalpakāsiddhiśca*". Ibid., pp. 823-4.

[3]See Gaṅgeśa : "*ata eva nirvikalpakatva-savikalpakatve na jātī cākṣuṣatvādinā saṅkarāpatteḥ.*" Ibid., p. 823.

(n., p. 36). By introducing two distinct types of *viṣayatā* (contentness), the Naiyāyikas tried to mark off the content of error from that of a true cognition. I have tried to explain this problem in some detail elsewhere.[1]

Mohanty's analysis of Gaṅgeśa's definition of truth is brilliant. In a previous publication he succinctly remarked that truth, according to Gaṅgeśa, is a "hybrid" entity.[2] I was not quite sure about the exact significance of this remark, and accordingly, I expressed doubt about its validity.[3] But in the present book Mohanty has made his point nicely (pp. 43, 45, 74-75). I wish to add only one comment here.

Gaṅgeśa's conception of truth contains both epistemic and ontological components, and this, according to Mohanty, is its main difference from the semantic concept of truth of A. Tarski. While I am now quite in agreement with this view, I wish to point out also that Tarski's notion of truth primarily applies to sentences and is always to be related to a specific language.[4] But Gaṅgeśa's concept of truth (*pramātva*) applies directy to particular occurrences of cognitive events (*jñāna*). Although this point seems obvious, it needs to be stressed because the well-known antinomy of the liar (i.e., Epimenides' paradox) can be shown to be quite meaningful in Tarski's semantic conception of truth. In a language system we can always find some device by which we can construct a sentence whose subject term will refer to the sentence itself. And thus, with Tarski's postulate of object-language and meta-language, we can try to solve the paradox of the liar. However, under Gaṅgeśa's theory of truth, I am not sure whether we can even formulate the liar paradox successfully. As long as Gaṅgeśa follows the Nyāya-Vaiśeṣika system and maintains that no cognitive state is self-revelatory, we cannot think of a cognitive state the content of which will consist of the same cognitive state itself in order that we may attribute truth and falsity to it; that is, we would cognize it at the same time as true

[1]Cf. *The Navya-nyāya Doctrine of Negation*, pp. 27-29.

[2]J. N. Mohanty, "On the Nature of the Prāmāṇya Theory," Our Heritage [Calcutta], 8 (1960), pp. 43-47.

[3]Op. cit., p. 17, n.

[4]See A. Tarski, "The Semantic Conception of Truth," in H. Feigl and W. Sellars, eds., *Readings in Philosophical Analysis* (New York : Appleton Century-Crofts, 1949), p. 53.

or false. Another way of formulating the liar paradox would be to imagine a possible cognitive state which can be of the form "all (my) cognitive states are false." But here too, in order to avoid the self-revelatoriness (*sva-prakāśa*) of this cognition, we have to exclude this present cognitive state from the extension of the term "all (my) cognitive states." Gaṅgeśa would perhaps say that our perception with regard to all cognitive states refers to all cognitive states only through the perceptual (or apprehensional) connection of the class character *jñānatva* (i.e, the essential property for being a cognitive state). But such an indirect self-reference does not apparently go against the Nyāya theory of the non-self-revelatory character of all cognitions (*parataḥ-prakāśa*).[1]

In Gaṅgeśa's theory, a cognitive state which relates *a* to something *b* is true if and only if *a* is *actually* (i.e., ontologically) related to *b*. Mohanty distinguishes the ontological component from the epistemological component in this definition. But the so-called ontological component, namely, '*a* is *actually* related to *b*,' which refers to an ontological situation, seems to satisfy the minimum condition of adequacy which any account of truth must satisfy. In other words, this component preserves what is perhaps a tolerably clear sense of the much-debated formulation (by medieval European philosophers) : *Veritas est adaequatio rei et intellectus* (truth is the correspondence between fact and intellection).

§ 3.2 : Perceiving and Misperceiving

Dr. Samuel Johnson attempted to demonstrate the existence of a stone by kicking it. G. E. Moore, in his Cambridge lectures,

[1]Cf. Gaṅgeśa's remark : "*jñānaṃ prameyam eveti vyāptijñānaṃ jñānatva-pratyāsattyā svaviṣayam, īsvarajñānam ahetukatvena sarvaviṣayatvāt sva-prakāśam.*" *Tattvacintamaṇi*,, Part I, p. 798. Thus, Gaṅgeśa allows self-reference (*svaviṣayatva*) of a cognitive state provided the cognition is about all cognitive states including itself and the predicative attribute is anything but truth or falsity. Truth or falsity of a particular cognitive state is not apprehended by the same cognitive state, nor even when that cognitive state itself is apprehended. This is the main contention of the *parataḥ-prāmāṇya* theory of Gaṅgeśa. For a somewhat closer formulation of the liar paradox in the Indian context, see Bhartṛhari, *Vākyapadīya*, Chap. III, 3/25,27,28.

raised his hands and said, "Here is one human hand, and here is another. Therefore, two human hands exist. And therefore, two physical objects exist." Both Johnson and Moore were concerned with a very persistent philosophic problem: When we are said to be seeing an external thing, do we perceive what it is that we think we perceive? One may ask further whether the external things are at all what we tend to believe that they are, and further whether there are any external things at all. These problems exhibit themselves embarrassingly in almost every discussion which is philosophic in nature. My purpose here is to discuss some theories of Indian philosophy concerning them.

Modern philosophical studies of perception have often centered around a controversy over what are called "sense-data." The sense-datum theory had its heyday in the past decades, although, much like logical positivism, it is now on the decline. But a reference to it can hardly be left out in any modern discussion of perception, and what I will have to say about the views of Indian philosophers here may, from time to time, be reminiscent of points made by both the sense-datum theorists and their critics. This is so because sense-datum theory, like positivism, reacted against a form of idealism. The positivist, for example, has tried to imagine an ideal "protocol language" which is evidentially prior and hence forms the basis of scientific empricism. Most Indian theories of perception were also attempts to combat a radical form of idealism which the Maitreya-Asaṅga-Vasubandhu school presented. The fact that the two versions of idealism differ does not always cause a corresponding difference in the philosophies of the anti-Idealists. Moreover, perception, illusion, and hallucination are global enough to form a common ground on which philosophers of different persuasions and traditions may converse and debate.

It is difficult to find an exact counterpart of the term "sense-datum" in Sanskrit, although it is true that Indian philosophic reflection on perception and knowledge began as it did in the West, with questions about the reliability of the senses. The main problem these questions lead to is that of justification of our belief in the existence of the external world, although in the Indian context it takes on a slightly different shape with some

[1]See next section § 3.3.

different underpinning. But first let us see how the notion of sense-data was introduced in the Western tradition.

From the basic idea that perceiving involves sense-experience, using many complex and involved arguments, of which the "argument from illusion" is the most important one, it is shown that there exist disparities between the way things appear and the way they are. In this way it has been claimed that we do not perceive a physical object, like a table, but that what we perceive is a different sort of "thing" altogether (for example, on various occasions, *various sizes and shapes of a table*), which they call sense-data.[1] With the introduction of this new term the sense-datum philosophers introduced a way of approaching the problems of perception which has generated a good deal of modern philosophic literature.

The meaning or connotation of the term "sense-datum" has not remained unchanged in the hands of modern philosophers. What is generally agreed is that a sense-datum is "not a physical reality." But while for G. E. Moore[2] and his followers a sense-datum is the *immediate* object of perception which may or may not be identical to a part of the physical object, for C. D. Broad and others it is the immediate object in perception, taken to be nonphysical.[3] The denotation of the term, however, includes, in any case, such items as the elliptical appearance and the circular appearance of a penny, as well as such things as mirage-appearance in the desert or the double-moon appearance.

What the Sanskrit philosophers call *pratibhāsa* (appearance) is not strictly a sense-datum in many respects, for, they did not pay much attention to the variability of the shapes or appearances or components in the perception of the same physical object, although they felt that the problem of explaining nonveridical perception, hallucination, and error was one of the central focuses of their philosophy. In a perceptual illusion, say a mirage-illusion, they noted the duality or disparity between what appears in a perceptual experience (that is, a *pratibhāsa*) of water, and what we

[1]G.A. Paul, "Is There a Problem About Sense-Data ?" *Aristotelian Soc. Suppl.* 15 (1936): 84.

[2]George Edward Moore, "Some Judgements of Perception," in *Philosophical Studies*, (New York : Harcourt, Brace & Co., 1922), pp. 231-2.

[3]C.D. Broad, *Scientific Thought* (London : K. Paul, Trench, Trubner & CO., 1923), p. 244.

are confronted with in the situation, the interplay of hot air and the sunrays.[1] This appearance of water in a mirage-illusion may be a sense-datum, but the perceptual consciousness here already involves a judgment, an interpretation of the datum. The philosophic motivation for introducing the sense-datum or even the "appearance" language was the Cartesian search for certainty, for the data are supposed to be incorrigible and indubitable. They are also called "the given" because they are felt to be independent of our judgments. They are self-evident and our beliefs, to fulfil their claims to be knowledge, must be based upon them in some way or other. But the *pratibhāsa* (appearance) is *not* an indubitable datum, for the Indian epistemologists argue that as long as it is describable in language it becomes the datum interpreted, or taken to be *something F* (for example, water). So our "*F*-appearance" in a state of (perceptual) consciousness implies that something is being identified as an *F*, or *the property of being an F is attributed somewhere.* If what we seem to cognize on a particular occasion is expressible in language as "this is *F*" or "this is an *F*" then the cognition in question is said to have an "*F*-appearance." The dispute among the Indian philosophers centered, to a great extent, on the exact (ontological) status of the "*F*-appearance", mainly the "*F*-appearance" of what we call a nonveridical perceptual experience (such as, a mirage-illusion of water).

The word "*ālambana*" is a flexible term in Sanskrit. It is not the sense-datum, but rather the "foundation" or "support" of a (perceptual) sensory experience. The Buddhists call it a *pratyaya* (causal condition) on which the arising of a state of perceptual consciousness depends. For example, a visual perception depends upon what may be called the visible (*rūpa*). This is enough for the Buddhist to call it a sort of "causal" dependence.[2] But it is not depended upon in the way the visual organ (the eye) is depended upon for the arising of a visual perceptual state. It is depended upon by way of being its object (*viṣaya*), to use, again, an already problematic term. The *Abhidharmakośa* notes the follow-

[1]See Vātsyāyana, *Nyāyabhāṣya* 1.1.4.

[2]For the Buddhist use of the term *pratyaya* as "causal condition" see § 4.2. Also see Vasubandhu's *Abhidharmakośabhāṣya*, Varanasi (ed. Swami Dwarikadas Sastri), 1971, pp. 279-82.

ing distinction between a *viṣaya* and an *ālambana*.[1] A *viṣaya* is the potential object of a perceptual consciousness, in the sense that when a cognizing state arises it has to select its *viṣaya*. For example, the eye-consciousness has to select the visible (*rūpa*). But a particular *ālambana* is *actually* depended upon, it is a *rūpa* which has been causally responsible, whenever a particular state actually arises. For all other practical purposes, the distinction between them may be suspended.

My perception of red-colour depends upon red-colour as its *ālambana* (objective ground), and my perception of the table depends upon the table as its *ālambana*. But if my perception of red-colour is a product of some hallucinogenic drug, would I still be justified in calling the red expanse its *ālambana*—its objective support? And if the perception of the table is due to some neurophysiological trick in the brain would it still have an *ālambana*? Apparently a class of Indian philosophers was inclined to say yes! As long as there is an appearance (*pratibhāsa*) (for example, red-appearance or table-appearance) it must be rooted in an *ālambana* (objective ground). In fact, they put forward the following thesis : *ālambana*=*pratibhāsa*. In other words, *ālambana* and *pratibhāsa* are only two ways of referring to the same thing. The implications of this doctrine are manifold, as we shall see presently.

The *pramāṇa* theory of the Indian philosophers, much like the sense-datum theories of Western epistemologists, seeks to ground human knowledge in a mode of experience that is immune to such failures as error, illusion, and hallucination. If there were an indisputable way of distinguishing veridical perception from the nonveridical ones, the problem of knowledge would be easily solved. However, in view of the embarrassing lack of an *agreed-upon* device, the idealists argue (and, in fact, Vasubandhu has argued)[2] that errors, hallucinations, and dreams provide paradigmatic examples in which an "object" (*viṣaya* or *artha*) appears but is not "out there." The "object" in all such cases is at best located in the mind, and at worst is nonexistent (*asat*) as external reality. From this point, it is further argued that what appears in every state of our consciousness is likewise mind-dependent or

[1] *Abhidharmakośabhāṣya*, ibid.

[2] See Vasubandhu's *Vijñaptimātratāsiddhi*, *Viṁśatikā* Kārika, first verse. See next § 3.3.

internal to consciousness itself, there being no justification to suppose that it is rooted in an external object (*ālambana*). Thus, Vasubandhu reached his philosophic conclusion which was devastatingly simple: The so-called external world is only a creation of the mind; the "stuff" of the world is made of consciousness only (*vijñāptimātratā*). What is emphasized mainly here is the essential dependence of what "appears" in a state of consciousness *upon* that consciousness itself. And this finally leads to a radical form of idealism (from which a short step would be solipsism): The world around us is the world within us.[1] I shall discuss this thesis in more detail in the next section § 3.3.

This is one extreme where *ālambana* (objective ground) is not distinguished from the *pratibhāsa* (appearance). There is another extreme view of a different kind where again *ālambana* is not distinguished from the *pratibhāsa*. Embarrassed by the persistence of nonveridical perception, the realistic wing, represented by the Prābhākara Mīmāṃsakā wanted to combat scepticism, idealism, and solipsism—all in one blow—by denying completely the possibility of error or illusion or even hallucination. According to them, all perceptions are veridical; it is an *error* to think that there could be any *error*. The so-called perceptual error is explained by them as a fusion or confusion of two different and distinguishable cognitive states : one is a memory state while the other is a perceptual state. In the usual mirage-illusion, the appearance of water actually belongs to the memory state (for we have already experienced water on many previous occasions), while the appearance of "this" or "there [it is]" belongs to the perceptual state. Thus, *pratibhāsa* is also the *ālambana* here, for

[1]The situation is not very different with the sense-datum theorists in the West, although very few philosophers today would go as far as Vasubandhu would ask us to go. Thus, W. H. F. Barnes criticizes, "...once the sense-datum theory is developed in the form stated above, it follows that even if physical objects exist, they are never present in perceptual experience; and it becomes an open question whether they have any existence at all." ('The Myth of Sense-Data," *Proceedings of the Aristotelian Society* [1944-1945], included in R. J. Swartz's *Perceiving, Sensing and Knowing* (New York : Anchor Books, 1965), p. 142. Most modern philosophers would like to maintain a 'double-standard' that would enable them to eat their cake and have it. Thus, it is claimed that when I "directly see" the sense-datum, I also "see", in (to use Moore's term) a Pickwickian sense, the physical object.

the water-appearance in memory is rooted eventually in the actual water experienced. This was the position of the Prābhākara Mimāṃsakas who were realists or anti-Idealists. They cut the Gordian Knot of idealism and solipsism in this amazingly simple way.

Let us go back to the Yogācāras. The philosophic argument of the Buddhist Idealist is something like this:

> A cognition or a state of consciousness does not need a ground or *ālambana* external to itself (witness either hallucinations or dreams). What is possible in one case must also be possible in every other case, for they are merely states of consciousness in essence. Thus, the thesis about the external world is: the external world does not exist, or if it exists, we have no way of knowing that it exists,

It is instructive to understand the Sautrāntika Buddhist position in this context. For, the Sautrāntika seemed to have allowed the possibility of the external world which the Yogācāra Buddhist was unwilling to allow. In this connection we have to discuss also what is known as the Buddhist theory of atomism, *paramāṇuvāda*. Atoms were posited as something like the data of sensory perceptual consciousness. If it is the datum of eye-consciousness based upon visual perception, it is given the blanket name *rūpa* (the visible). Similarly the data of other sense-experience are identified: smell, taste, touch, and sound. The material object, under this view, is a fictional construction out of these sensory "atomistic" data. This view seems to be close to phenomenalism in the West, although caution is necessary in order not to forget its peculiarities. The data (the atoms) are, as a Sautrāntika would put it, "substantially real" (*dravya-sat*), whereas the material objects, such as the pot or the table, are only imagined to be real (*samvṛti-sat*). This can be compared with the acceptance of basic units or primitives in logical atomism, out of which the rest of the world can be constructed. This system is basically phenomenalistic in the sense that the basic units, these atoms, are phenomenal elements rather than physical elements. The atoms are not, one must note, the material atoms of the Vaiśeṣikas. Of course, the claim is that these basic units are "obtainable" or "perceptible" individuals, in the sense that they cause perceptions and are cognitively immediate. This claim is probably

indicative of an underlying philosophical attitude, a desire to show that nothing beyond the phenomenal need be countenanced in order to explain everything including the physical things —a further desire to show that if the first claim is successfully substantiated the so-called physical world, as we commonly understand it, can at best be dispensed with as non-ultimate or non-final, and hence, it does not merit the importance or value we usually attach to it. Very few Western phenomenalists would, however, make such a value judgment about the physical world. The choice of a phenomenalistic basis is usually argued for in the West, as far as I know, on the ground that the phenomenal by its very nature comprises the entire content of immediate experience and therefore all knowables must eventually be explicable or analyzable in terms of phenomena. However, analyzability or explicability of a complex concept can hardly be a criterion of its falsity or even comparative unreality. Rather, what is claimed is epistemological priority or proximity and immediacy for the phenomenal, and consequently, its indubitability over the other, that is, the set of constructed elements. The Sautrāntika argues that the important difference between these two classes of entities, the substantially real atom and the gross object, is that the function of causality is assigned to the first but not the second. An entity which is only imagined to be real cannot really cause anything. We cannot ride an imagined horse.

The atomicity of the Sautrāntika sensory data, I repeat, should not be confused with that of the material atoms of the Vaiśeṣikas. These data are called "atoms" most probably because of two reasons: (1) their subtlety and uniqueness to each occasion, and (2) their unanalyzability into further data. The Sautrāntika also admits that these atomic data are in perpetual flux. Moreover, although each atomic datum is coordinated to some sense-organ, it is by no means the content of any sense-experience; rather it is said to determine causally the content of such experience. Thus, it would probably be a mistake to assimilate the Sautrāntika view into a form of phenomenalism (as has sometimes been suggested).

Let us ponder again over the relation between the Western sense-datum and the atomic datum of the Sautrāntika. Most sense-datum philosophers agree that sensing is a from of know-

ing, and that a sense-datum is what we know immediately. It is also argued that a sense-datum in some sense must "belong to" a material object and it is a central problem of epistemology to determine or explain in what manner this takes place. The "causal theorists" (like Russell and others) claim that we make a causal inference and are thus led from sense-data to material objects. The phenomenalists, such as Mill, would regard material things as permanent possibilities of sensations. Yet H. H. Price has argued that a phenomenalist must hold that sense-data are neither mental nor physical, and that they are not caused at all and they are not even real in the ordinary sense of the word.[1] Price continues:

> According to him [the Phenomenalist] we must simply take the sense-given continuum as a going concern. There it is, and all statements in which material things and events are mentioned, are ultimately statements about it—about the manner in which it does or could develop itself, whether now or in the past or in the future.

According to Price, the phenomenalist is right in rejecting the idea that sense-data are causally dependent upon the thing, (that is, a table) as their "source." For, if by "thing" we mean the "complete thing," then this complete thing is a combination of the family of sense-data and the physical occupant of the particular space, and thus it would involve the absurdity of saying that A (the sense-datum) is causally dependent upon AB (the complete thing, that is, family of sense-data and the physical occupant). If by "thing" we mean, however, the physical occupant only, then Price allows that the table or other physical occupant may well be the *remote cause* of the sense-data composing the family. In the same view, it can be claimed that sense-data are also causally dependent upon the organism of the sentient. The atomic data of the Sautrāntika, however, are stated to be independent of the mind or consciousness. They are not mental, and it would be also difficult to call them physical. But they are claimed to be "external" to consciousness. Certainly they are not caused by the material object, the table. Rather it is believed that they *cause* the so-called appearance of the false table, the "material object." Thus, the Sautrāntika disagrees with an

[1]H. H. Price, *Perception* (London, 1932).

imporant part of the thesis of the Causal Theorists: namely. "M (a material object) is present to my senses" is equivalent to "M *causes* a sense-datum with which I am acquainted." Besides, the Sautrāntika believes that the existence of the extramental reality, that is, the atomic data, is only inferable from the appearances (*pratibhāsa*) of the gross material object in our perceptual consciousness. For (a) the atomic data must have caused the arising of this perceptual consciousness; and (b) by so causing the perceptual consciousness to arise, they have also caused indirectly the *appearance* of a gross material object, which is a mere appearance, only imagined to be real.

If we have followed the Sautrāntika argument so far, we would be in a better position to appreciate and understand Dignāga's arguments in his *Examination of the Ālambana*, where he rejects the view that the *ālambana* is something *external* to consciousness. The opponent of Dignāga, presumably a Sautrāntika, has argued that these five kinds of atomistic data would act as the *ālambana* to give "causal" support to the five kinds of perception due to the five kinds of senses. This "atomist" (Dignāga's opponent) concedes that what appears in consciousness, or what constitutes the appearance (*pratibhāsa* or *ākāra*) in consciousness, is different from these atomistic data. For, after all, a perceptual consciousness is described as that of a table or a pot (and so it refers *intentionlly* to a pot or a table). The problem before the atomist is this : although a visual perception can be "causally" dependent (as its *ālambana*) upon the atoms of the visible (*rūpa-paramāṇu*), the resulting cognition does not have atom-appearance, for the atomic data are impartite, discrete, and many, while what appears in consciousness is a unitary object, a table—also a gross object.

Dignāga rejects this view on the following ground.[1] An *ālambana* of a perceptual consciousness must fulfil at least two conditions: (1) it is "causally" responsible for the arising of that piece of consciousness (*tat-kāraṇa*); and (2) it is also what constitutes the appearance (*pratibhāsa*) of that piece of consciousness. In other words, Dignāga supports the basic position to which I have already referred. What appears in consciousness is also non-distinct from

[1]Dignāga's *Ālambanaparikṣā* (Tib.) ed. with Sanskrit reconstruction by Aiyaswami Sastri (Madras 1942), verses 1-8.

that in which that piece of consciousness is objectively grounded (*pratibhāsa* = *ālambana*). Now, the so-called atomistic data may fulfil the first condition, but not the second. Hence, they cannot be called the *ālambana* of a piece of consciousness. The "phenomenal" objects, that is, the objects which are only "imagined to be real" (*samvṛti sat*), such as a table, may constitute the appearance (*pratibhāsa*) of a piece of consciousness, but they cannot be "causally" depended upon (as a *pratyaya*) for the arising of that consciousness. For remember, you cannot get a sprout out of an imagined seed ! (See § 3.3)

From Śāntarakṣita we learn that Bhadanta Śubhagupta[1] tried to support the Buddhist "atomistic" theory by arguing as follows: A gross body, such as a table, may be thought of as an atom cluster. The Buddhist doctrine of momentariness requires that these atomic data emerge at one instant (moment) simultaneously and without gaps (and disappear at the next moment). Just as (a follower of Dignāga agrees that) the instantaneous (momentary) object such as a pot-moment emerges and perishes instantly, making room for a new and similar pot-moment at the next moment, and thus, as a result, we seem to perceive a pot that is supposed to persist through time, similarly the data called the 'atom-visibles' (*rūpaparamāṇu*) arise in space together and without seeming gaps, and this generates our seeming perception of the generic nature (*sāmānya*) of an object, that is, a gross physical body, a pot, that seems to have parts, and hence, is divisible (that is, extends in space).

A modern example would be that of a cinema show where distinct films of different postures of a horse running are run before our eyes fast enough to generate the illusion of continuous motion-picture of a horse running. The modern photography also provides a better example of spatial continuity or spatial extension, where discrete dots or points on the screen being put together without gaps create the picture of an extended material object, such as a table. Śubhagupta's argument may thus be rephrased as follows: Just as a follower of Dignāga must accept the appearance of temporal continuity (temporal extension) of an object like a pot, although he knows that it is an illusion, so also he should admit the appearance of the spatial continuity (spatial

[1]Śāntarakṣita's *Tattvasaṅgraha*, ed. Swami Dwarikadas Sastri, (Varanasi).

extension) of a pot in spite of its being an illusion. But the Yogācāra Buddhist accepts the first and rejects the second.

The following account of the dispute between the Yogācāra and the Sautrāntika can be gleaned from Śāntarakṣita :

Yogācāra : If the so-called atom-stimulants generate perceptual consciousness out of their own function, why do they not appear in consciousness (in other words, why do we not say, "I see atoms or atom-clusters," through *parāmarśa*) ? And since this is not so, how can we say that they are perceived ? The momentariness (lack of temporal continuity) of everything is established on separate evidence (*pramāṇa*), that is, the evidence of reason (compare *anumāna*), and therefore, we call the appearance of temporal continuity, that is, persistence of things through time, to be illusory. But what is the *independent* evidence for establishing the reality of such atomic data, the extramental atom visibles, such as the yellow stimulant or the white stimulant ? If they cannot be established (independently), the appearance of the atom-clusters as gross objects out there cannot also be established.

Sautrāntika : Here is an argument (evidence of reason) to prove that the atom-stimulants are real. A gross object is always made up of a cluster of smaller or more subtle objects : witness a mountain range which is formed by a number of small mountains (hills) put together. Hence this *gross* pot that is visible must be made up of the cluster of the subtler, atomic, constituents. They are what we call the atom-visibles, that is, the visible atomic data.

Yogācāra : Your argument is faulty. The so-called grossness (*sthūlatva*) of the object is exactly in dispute here. Does this grossness really belong to the object out there ? If so, then you have assumed already what you intended to prove originally, namely, the externality of objects, or the existence of objects "out there." For grossness to belong to the outside thing, you must first establish that there are outside things for such grossness to belong to. If, however, you say that grossness is that which appears as such invariably in the experience of all persons including the fools, the illiterate, and the educated, alike, then such appearance of grossness (*sthūlatva-pratibhāṣa*) is present even in a dream-object (for example, a dream-elephant) or in errors like "this is a piece of silver."

Thus, just as the appearance of grossness in a dream-object (a dream-elephant) cannot lead us to infer the independent reality of the constituent atomistic data (the atom-visibility) of such objects, similarly the appearance of grossness in an ordinary cognitive state cannot be used as a reason for establishing the constituent atomistic data as independently real.

The above is a good illustration of the philosophic dispute between the Sautrāntika and the Yogācāra. But perhaps we are back to the old problem—the problem of finding a distinguishing mark that may serve to distinguish the class of veridical perceptions from that of nonveridical ones, such as dreams and hallucinations. As far as the *pratibhāsa* (appearance) is concerned, no distinction is possible, and to the extent an *ālambana* (objective ground) is to be identified with the *pratibhāsa* it is impossible to find a distinction. Thus, the Yogācāra concludes that the *ālambana* is as much internal to a piece of consciousness as is the particular *pratibhāsa* of that consciousness. If there is any datum like the atom-visible, to act as the objective ground, it is internal to our perceptual consciousness, just as any *pratibhāsa* in that consciousness is also that in which it is said to be objectively grounded.

The Sautrāntika develops the concept of *arthakriyā-saṃvāda* (accordance with the function of objects) in order to distinguish the veridical perception from the nonveridical ones. What is this "accordance with the function of objects" ? Well, preceiving a gem on the floor, I may rush to pick it up, but if it is a false perception (illusion), I will never be able to pick it up. In one case, there is accord with the "function of the object" (*arthakriyā*), in another there is discord, and thus, a nonveridical perception is distinguished from the veridical one. But the Yogācāra is *unimpressed* by such a "pragmatic" theory of truth. For, according to him, it begs the question. The argument assumes the externality of objects without really proving it. It is like the Johnsonian way of proving that a stone exists by kicking it. Or, even it resembles the Moorean way of waving a hand before the opponent to say that there exists a human hand, for otherwise what else can be waved ?

The Yogācāra, however, assimilates the concept of *arthakriyā* into his own theory. For, if the concept means to be congruent or coherent (or the potentiality to be so) with the expected

behaviour pattern that invariably follows the cognitive state, then it is possible for a veridical perception to meet this requirement even if we do not assume that the object is external to consciousness. In fact, this is also the Yogācāra answer to the question of a distinguishing criterion between a veridical perception and a nonveridical one—the former has *arthakriyā*, while the latter does not. The difference between a true perception of a gem and a (perceptual) illusion of it is much like the difference between a real gem and a fake one. In the latter case, you can trade only the real gem for money, not the fake one. The difference in what follows is accountable by reference to the *causal history* of the origination of the real gem and the fake one. Similarly, the causal ancestry of a veridical perception, as well as that of a nonveridical one, accounts for the differences in what follows in either case. There is congruence with the expected behaviour pattern (compare *arthakriyāsaṁvāda*) in one case and the lack of it in the other.

If the real gem and the fake gem are so much alike that they agree in all conceivable patterns of behaviour (for example, both can earn you a decent sum of money, both are equally beautiful), then the Yogācāra will argue that there is little point in calling one real and the other fake unless we are already prejudiced with the idea that one of them is certainly real and the other is not. In other words, we disqualify ourselves to judge the real from the unreal, for, we have prejudiced the issue. If, however, we are already familiar with the causal ancestry of both which determined the issue, the issue has already been resolved for us, and we do not need any further arbiter of truth. We may just kick, with Johnson, the stone in front to prove that it is real.

§ 3.3 : Knowing the External World

It is necessary to specify the sense of the term 'idealism' in which it is generally used to describe the Yogācāra-Vijñānavāda school of Buddhism. I shall apply this term here particularly to the philosophical school of Asaṅga and Vasubandhu, of which Digṅāga and Dharmakīrti became later exponents. For the sake of convenience and feasibility, I shall ignore the later developments of this school to be found in the writings of Ratnākaraśānti and Jñānaśrīmitra in the tenth and eleventh centuries A.D.

Philosophical idealism is usually characterized as a denial of the commonsense view that material/external objects exist independently of the mind, i.e., independently of their being perceived. This general character of idealistic philosophy was presumably present in the Vijñānavāda theory of reality. Thus, without the risk of gross misunderstanding the term 'idealism' can be properly applied to it. In what follows I shall be concerned with the peculiar nature of Yogācāra idealism, and it is hoped that, as a result of this exposition, its difference from other forms of idealism will eventually be made clear.

Two noteworthy points can be underlined at the outset. *First*, unlike its Western counterpart, idealism in the Buddhist context was not used as a support for philosophical theism, according to which God is a perfect spiritual being who created everything else and hence more fundamental than any material thing He has created. Nor was it used to support a sort of pantheism, according to which nothing exists except God and his modes and attributes. *Second*, like its Western counterpart, Buddhist idealism is also a rejection of what may be called materialism, and an assertion of a spiritualistic metaphysic that is favourable to religious belief.

The second point underpins also the soteriological significance of the 'Consciousness only' (*vijñaptimātratā*) doctrine. Just as the 'Emptiness' doctrine (*śūnyavāda*) supplies the philosophic basis for the therapeutics of *Nirvāṇa*, so also idealism or *vijñaptimātratā* doctrine provides the metaphysical rationale for pursuing the religious programme to realise *Nirvāṇa* in the form of pure, translucent consciousness, the 'absolute'. The *vijñapti* doctrine was a reaction, on the one hand, against the Mādhyamika interpretation of *prajñā* (wisdom, insight) as essencelessness and emptiness, and, on the other, against the realistic overtone of the Sautrāntika-Vaibhāṣika metaphysics. For Maitreya/Asaṅga, *śūnyatā* becomes *dharmatā*, and this *dharmatā* is *sat* 'existent' in so far as it represents the essence of all *dharmas*, as well as *asat* 'non-existent' in so far as it negates the duality (*dvaya*), viz., subject and object, which is always inherent in our experience. The verse that sums up the fundamental doctrine of the school is ascribed to Maitreya and handed down to Vasubandhu by Asaṅga.

abhūtaparikalpo 'sti, dvayam tatra na vidyate
śūnyatā vidyate tv atra, tasyām api sa vidyate

The 'imagining of the unreal' exists; (but) the (supposed) duality is not present in it. Emptiness, however, is present here (and) even in emptiness that (i.e., 'imagining of the unreal') is present.

Vasubandhu explains: The imagining of the unreal here is the discrimination of the forms of the apprehensible (*grāhya*) from the form of apprehension (*grāhaka*). "Duality" refers to the apprehension and the apprehensible. "Emptiness" means the nature of the imagining of the 'unreal' : this nature is devoid of the apprehension-apprehensible distinction.[1]

Two more verses from the *Madhyāntavibhāga* will establish clearly Asaṅga's position against the Mādhyamika :

Consciousness arises having the appearance (*pratibhāsa*) of objects, beings, self, and cognized states: [but] objects [etc.] do not exist. And because of the non-existence of objects [etc.], that [consciousness of objects, etc.] is also unreal 1.3. Therefore, the nature of its being [merely] 'the imagination of the unreal' is established. That [position, i.e., non-existence of everything] cannot be maintained while admitting total non-existence [of even the imagination of the unreal]; [but] salvation is intended to be realized from the disappearance of this [imagination of the unreal, which, therefore, should be admitted to exist][2] 1.4.

The *abhūtaparikalpa* consists in the wrong ideation or assumption of existence and essence of objects. It is represented by a continuous series of mental states which have no beginning, but will end with *Nirvāṇa*. In fact, it corresponds to the process of *saṃsāra* (worldly existence or life experience). For Nāgārjuna, one

[1]*Madhyāntavibhāga-bhāṣya* (ed. by G.M. Nagao), pp. 17-18
"tatrābhūtaparikalpo grāhya-grāhaka-vikalpaḥ/
dvayaṃ grāhyaṃ grāhakam/śūnyatā tasyābhūta-
parikalpasya grāhya-grāhakabhāvena virahitatā."

[2]Ibid., pp. 18-19.
"artha-sattvātma-vijñapti-pratibhāsam prajāyate
vijñānaṃ nāsti cāsyārthas tad-abhāvāt tad apy asat" 1.3
"abhūta-parikalpatvaṃ siddham asya bhavaty ataḥ
na tathā sarvvathā 'bhāvāt tat-kṣayān muktir iṣyate" 1.4. See Translation 5.

may say, *saṃsāra* and *nirvāṇa* cannot be sharply distinguished since both are empty or void. For Maitreya/Asaṅga, both exist, *abhūtaparikalpa* and *śūnyatā*, wrong ideation and emptiness, *saṃsāra* and *nirvāṇa*, *yena śūnyam* and *yat śūnyam*.[1] Wrong ideation co-exists with the ultimate emptiness or *citta*, although the former covers or defiles the other. By removing the former, the pure *citta* is realized.

Apart from the *cittamātratā*, two other important characteristics of the Maitreya/Asaṅga school are : (1) the *ālaya* doctrine ('storehouse' or 'home' consciousness), and (2) discrimination of the three aspects (natures) of reality. The influence of the Sautrântikas, specially their concept of 'seed' and 'maturation' (*bīja* and *vipāka*), is visible in the *ālaya* doctrine.[2] The classic exposition of the 'triple-nature' of reality is found in the *Sandhinirmocanasūtra*.[3] As my main concern here is the philosophic position which refutes the external/material world as unreal, I will skip here the soteriology of the 'triple-nature', or the *abhūta-parikalpa*. It is conceded that the main purpose of the Maitreya/Asaṅga school is to describe the process and progress of meditation towards the *sarvākārajñatā*, the complete wisdom of the Buddha, which represents the final goal of the Way (*mārga*). The 'ideation only' or 'consciousness only' theory has been inserted into a framework of the mystic ascension of the saint, and the philosophic speculation here is of only secondary importance. However, I am concerned here with the philosophic implication of this very attractive theory—the same philosophic implication that concerned a majority of later Yogācārins and their critics.

One historical point before I proceed any further. I believe that some form of philosophic idealism was concomitant with the rise of Mahāyāna Buddhism. Thus, in my opinion, the expositions and critiques of idealism found in the *Nyāya-sūtra* (or even in the *Nyāya-bhāṣya* and the *Śābara-bhāṣya*) need not necessarily be placed after the rise of Asaṅga and Vasubandhu (i.e., 300-400 A.D.). For, the specific critique of, and distinct reference to, Vasubandhu is to be found in Uddyotakara and Kumārila, and not earlier. Although it was concomitant with the rise of Mahāyāna Buddhism, idealism became crystalized as a

[1]G. Tucci, pp. 34-35.
[2]See § 4.7 following.
[3]See Translation 1.

religio-philosophic system in the hands of Asaṅga and Vasubandhu while Dignāga and Dharmakīrti developed it further as a philosophy with their special doctrine of *sva-saṃvitti* 'self-consciousness'. But more on this later.

I shall now concentrate upon Vasubandhu's philosophic argument in favour of *vijñaptimātratā*, 'consciousness only'. Vasubandhu refuted materialism and defended idealism on the basis of two major arguments. His first argument was as follows : Since it is possible for unreal/non-existent things to 'appear' (cf. *avabhāsa*) in consciousness, we may conclude that everything that seems to exist is just a 'making of consciousness' (*vijñapti*). The fact that consciousness reveals the non-existents as external objects is like the fact of our perceiving non-existent strands of hair or the non-existent second moon under the influence of the eye-disease called *timira* (ophthalmia ?)[1] Under delusions and dreams, we perceive objects that are not there. Our knowledge of the external/material world is actually of a piece with the universal delusion (*avidyā*) because an external world does not exist apart from, or outside, our consciousness of it.

Vasubandhu formulated three objections to this thesis and answered them accordingly. If external objects did not exist and hence were not related causally to our consciousness of them, then (a) what determines the fact that we have one particular consciousness at a given place and time ; (b) how is it that one state of consciousness is not limited to just one person but experienced by many alike (e.g., why a number of people can see that there is a chair in this room), and (c) how can a non-existent object function as it is expected to function (e.g., how can a non-existent apple satisfy hunger, or an absent woman evoke amorous feelings) ? The first and the third objections are answered by referring to the example of dream experience. One dreams of a particular thing at a given place and time and of another thing at another place and time without there being any (ostensibly) external factor to determine it. A dream object, viz., a dream-woman can satisfy the experience of sexual hunger in dream too, i.e., a dream-object can be libidinally cathected.

[1] *Vijñaptimātratā-siddhi*, *Viṁśatikā*, p. 3.
"vijñapti-mātram evaitad asadarthāvabhāsanāt/
yathā taimirikasyāsat-keśacandrādidarśanam"

To answer the second question, Vasubandhu referred to the example of an illusory experience of hell. In books like the *Mahāvastu* (from which Vasubandhu obviouly derived his example) the Buddhist conception of hell is described as being the fact of some extremely painful experiences (such as that of being chopped into pieces, or swimming in a lake of filth) which is shared at the same time by a number of *pudgalas* (persons) having a common personal history. In reality, however, there is no hell outside the mind of these individuals.[1] Even if we are hesitant about the credibility of this type of example, i.e., the fact of a common psychosis described in the Buddhist mythology, Vasubandhu's argument does not lose its force. In a world of scientific technology, it is not impossible to create conditions for some common delusion which can deceive a number of persons. It is possible to think of Descartes's all powerful evil demon, or a modern mad scientist, who might stimulate several men's brains with various electrodes and employ the process so ingeniously that all of them will experience enjoying a sumptuous dinner while no food is actually present. Witness the renewed interest in the theory of hypnotic states. Thus, some form of Cartesian doubt might even lead us to the conclusion of the unreality of the external world.

Several points can be noted in this connection by way of contrast. First, ordinarily we can make a distinction between two types of illusion or rather between illusion and delusion. In one case, one is wrong about what one is in fact perceiving. In the other, one is mistaken about the very fact that he is perceiving at all. It is the second kind of illusion, or delusion, that is most pertinent for arguing in favour of the radical sort of idealism that Vasubandhu hoped to establish. His example is that of the eye-disease in which one visualizes non-existent strands of hair. This is like the experience of pain in a limb which has actually been amputated and no longer there. Such subjective experiences possess the vivacity of the genuine perceptual experience. And thus, the idealists claim, they are phenomenologically indistinguishable from those that occur in so-called authentic perceptions. If this is conceded, Vasubandhu can easily drive the point home that the so-called material/external world is only an appearance *in*, and hence an integral part of, our modes of consciousness.

[1]Ibid., pp. 3-4

Second, in the empiricist tradition of the West, the view that is rather contemptuously (and, to my mind, somewhat unjustly) labelled as Naive Realism is often refuted by what is generally called The Argument from Illusion. In plain language, 'Naive Realism' stands for an innocent *prejudice* (as it is alleged by philosophers) of the ordinary man that the sensible qualities that we perceive around us, colour, shapes, sounds, touch, smells, etc. actually belong to the material objects outside and that we not only see colour but also the coloured object directly. Such a claim, it is believed, can be easily upset by pointing out the fact that we are sometimes deceived by our senses, as in the case of illusions and delusions. But this 'Argument from Illusion' led the empiricists of the West to devise the disastrous theory of sense-data—a veil or screen or representations between us and the external world—which, for some time, enjoyed the confidence of well-known philosophers in the West. From the premise that what we *immediately* perceive are sensations or ideas, George Berkeley was led to his celebrated thesis: *esse est percipi*. One acceptable sense of the thesis is that what we call 'material things', such as trees, rocks and tables, are orderly groups or bundles or collections of sensations.[1]

Vasubandhu's idealism appears to be similar to that of Berkeley, but it, nevertheless, differs from Berkeley's idealism quite radically. For one thing, in Berkeley's thought the notion of a material substance as distinct from sensible qualities is unimaginable and inconceivable (and if they were conceivable they would be problematic existents). But Vasubandhu's example of eye-disease not only carried religious and moral overtones with it but also emphasized the non-duality and finality of consciousness. It is the non-dual, fluctuating consciousness which splits itself into a duality, an experience and the object-appearance of that experience, the forms of apprehension and the apprehensible (*grāhaka*

[1]The classical formulation of the empiricist's thesis in the West is found in J. Locke's *An Essay Concerning Human Understandiug*, G. Berkeley's *The Principles of Human Knowledge* and D. Hume's *An Inquiry Concerning Human Understanding*. Descartes's point about an 'evil demon' is found in *Meditations*. For remarks of modern philosophers on the problem, see B. Russell's *Human Knowledge* and *Problems of Philosophy*, J.L. Austin's *Sense and Sensibilia*, and H.H. Price's *Perception*. A good anthology of twentieth-century sources in the philosophy of perception is to be found in *Perceiving, Seeing and Knowing* (ed. by R.J. Swartz), New York 1965.

and *grāhya*), although this appearance of duality is a disease to be cured by *prajñā*, the ultimate insight. For another, the Representative and Causal theories of perception, as they are found in the Western empiricist tradition, concede at least that the external world, for all we know, may be out there, although it is not directly known by our senses. In Buddhist idealism, however, even this concession would be fatal, because then the claim of absolute reality to be ascribed to pure, transcendental consciousness would be at stake. Vasubandhu justified his idealism by another argument. If we admit that the gross material/external object exists, it leads to some absurd consequences. The so-called material object (e.g., a table) is necessarily thought to be composite in structure, and hence, cannot be *substantially* or independently real. In *Viṃśatikā*, verse 11, it is said :

> The [material] object is neither a unitary whole, nor a multitude of atoms, nor even a combined form of atoms, because an atomic constituent cannot be justified as a real constituent [of matter].

An atom is usually conceived as the smallest, impartite, constituent of matter. The theory of creation of divisible bodies out of indivisible and impartite atoms (i.e., the Vaiśeṣika theory of atoms) goes bankrupt when its inner contradiction is exposed. If the different atoms are connected (i.e., conjoined) with one another to create a new body bigger in size, then those atoms must be big enough to have different parts in order to make conjunction possible. But this will contradict the impartite nature of atoms. If, on the other hand, atoms being impartite and indivisible do not have any spatial extension, no conjunction of them will produce bodies bigger in size than atoms. The Kāśmīra Vaibhāṣikas (a school of Buddhist realists) used to hold that atomic constituents are not physically conjoined (as the Vaiśeṣikas thought) but are merely combined (*saṃhata*) to create impressions of solid, material bodies. Vasubandhu rejected this view too on the ground that such a combination of atoms would be either indistinguishable from the Vaiśeṣika notion of a body as a 'whole' (*avayavin*) or indefensible because one such combination could not have physical conjunction with another such combination. It should be noted here that according to the Buddhist realists, while bodies or wholes are imaginative constructs (cf. *prajñapti-sat*),

their atomic constituents are ultimately real (cf. *dravya-sat*). But by exposing the inner contradiction of any atomic theory of matter Vasubandhu reached his desired conclusion : Nothing exists but consciousness.[1]

The Sautrāntika might take atoms to be externally existent and lending 'objective support' to the corresponding cognitive event, i.e., the state of consciousness. In other words, the atoms being substantially or ultimately real (*dravya-sat* or *paramārtha-sat*) can cause the corresponding consciousness. But, Dignāga argued, the atoms being formless themselves cannot contribute the form or image to the corresponding cognitive state. Thus, the atoms do not satisfy the second condition for being the 'objective support' of consciousness. The Vaibhāṣikas, on the other hand, might take the combination of atoms in the form of a chair, etc., to be the objective support. For such a combination possesses a particular form, and hence can contribute its form to the corresponding cognitive state. But, according to Dignāga, such a combination fails to satisfy the first condition. In other words, this combination being only a construct and hence only conventionally real cannot *cause* the corresponding consciousness. For Dignāga, a conceptual construct is as much real as the second moon appearing in our diseased eye-organ (cf. *timira*).

Dignāga noted a third view (ascribed to Vāgbhaṭa by the commentator Vinītadeva). According to this view, the collection (*saṃcaya*) of atoms is capable of producing the cognitive state, and the image or form can be contributed jointly by the multitude of atoms. Dignāga rejected this on the following ground. Under this view, it would be difficult to distinguish between the cognition of an earthen tea-pot and that of an earthen pitcher, both varying in shapes and sizes from each other, but constituted of atoms of the same kind (viz., earth atoms). If the distinction is maintained on the basis of their difference in size or shape, it would be unacceptable because size or shape does not belong to the atoms, the real entities, but to the constructs, the pitcher and the tea-pot. Thus Dignāga reached his conclusion: the so-called *ālambana* or objective support does not lie outside consciousness. But in the *Pramāṇasamuccaya*, Dignāga developed his doctrine of *svasaṃvitti* 'self-consciousness' or 'self-awareness', which must have

[1] *Vijñaptimātratāsiddhi*, pp.6-8.

inspired Dharmakīrti's elaborate defense of idealism in his *Pramāṇavārttika*. Dharmakīrti took issues with the Sautrāntikas. The Sautrāntikas believed in some kind of 'representation' theory of consciousness. For according to them, representations or to use the Sanskrit metaphor, the 'forms' or 'images' (cf. *ākāra*) of consciousness, are contributed by the external object, and external objects do exist although what we perceive directly are only their 'forms' in consciousness.[1]

Briefly, the doctrine of 'self-consciousness' states that in each act or moment of consciousness there are not only two 'forms' or appearances, the forms of comprehension (*grāhaka*) and the comprehensible (*grāhya*), but also a self-comprehension or self-cognition where both these forms are registered. For Dignāga, self-cognition is a kind of mental perception which constitutes an integral part of each episode of awareness. Each episode of awareness in the consciousness series is ultimately real and self-revealing in character while it reveals both the object-form and its comprehension.[2]

One of the classic arguments of Dharmakīrti is based upon this principle of self-cognition. Although a formulation of this argument is found in the *Pramāṇavārttika*,[3] the verse, which sums up concisely this argument, and which has accordingly been quoted very often by later philosophers, is located in his *Pramāṇaviniścaya*. By using the principle of identification of the indiscernibles, Dharmakīrti argued :

> The cognition of blue and the blue (as an object) must be non-different (from each other), for they are apprehended together always (i.e., when one is apprehended the other is also

[1]See *Ālambanaparīkṣā*, verses 1-8.

[2]The concept of *ākāra* 'form' is very intriguing. In the Prajñāpāramitā literature, the wisdom of the Buddha is described as *sarvākārajñānatā*. The so-called objective support or *ālambana* of a consciousness-moment is nothing but the idea that develops, at a particular moment, in our mind from mind itself, there being no external, independent object. The form of this *ālambana* is called *ākāra*. In the spiritual ascent of a person through meditation, a new *ākāra* replaces the old *ākāra*. To the *śrāvaka*, for example, the *ākāra* of a *rūpa-dharma* is *anitya* 'impermanent'. In other words, the 'form' under which *rūpa* appears is *anityatā* 'impermanence'. To the bodhisattva, however, the *ālambana* will be *anitya* and its ākāra will be *anabhiniveśa* 'unattachment'. See Tucci, pp. 23-24.

[3]*Pramāṇasamuccaya*, Hattori's note pp. 106-13.

apprehended and vice versa). The (apparent) difference (between them) is due to (our) delusions, just as one sees two moons (under the influence of an eye-disease)[1].

In each event of awareness, according to the doctrine of self-cognition, there are three aspects, the object-aspect, its cognition and self-awareness (cf. *grāhya*, *grāhaka* and *svasaṃvitti*). All the three are integral parts of one momentary state of consciousness. Since there is the invariable fact that the object-form is never apprehended without its cognition-form being apprehended, it is argued that one should not be distinguished from the other.

What, then, accounts for the particularity and variety of our different cognitive states? The answer is amazingly simple. It is not the external world, but the internal *vāsanā*, individual backlog of our personal history, our mental dispositions, the residual forces of our past actions, coupled with the ingrained, beginningless, *avidyā* 'wrong notions'. (See § 4.6)

The Yogācāra idealism can very well lead to a solipsistic position, when it is carried to its logical extreme. In this respect too, Western empiricist tradition offers a parallel, where the question of avoiding solipsism became a recognized problem. It was Dharmakīrti who tried to refute the charge of solipsism in a separate treatise, *Santānāntarasiddhi*.[2] The main point of his argument can be summed up as follows. The method by which the idealist would prove the existence of other minds (i.e., *vijñāna-santāna* or consciousness-series other than one's own) is not much different from the method by which the realist would hope to establish the existence of other minds. If, for the realist, the physical acts and speech belonging to other bodies are regarded as evidence of the existence of other minds, the idealist can very well adduce the ideas or representations of the same visible physical acts and speech as evidence of the existence of other *santāna* or consciousness-series. Although this argument is not very convincing, it, nevertheless, exploits the weakness of the argument of the opponent, for, the realist is also in the same uncomfortable position when he tries to prove that there are other minds.

[1]Cf. *Sahopalambhaniyamād abhedo nīlataddhiyoḥ*, as quoted in texts like *Nyāyamañjarī* and *Nyāyabhūṣaṇa*. See also Translation 2.

[2]See H. Kitagawa, in Appendix A, I, pp. 407-39. Kitagawa has given a translation of *Santānāntarasiddhi*.

We may now look into the other side of the story. Since Yogācāra idealism was a challenging philosophical position, it evoked criticisms from all sorts of realists, the Nyāya-Vaiśeṣika, the Mīmāṃsakas, the Jainas as well as the Buddhist realists. In what follows, I shall limit myself to the criticisms of some Nyāya-Vaiśeṣika philosophers, as well as of Kumārila, the Mīmāṃsaka. In most Nyāya-Vaiśeṣika texts, one finds an elaborate defence of their theory about the constitution of matter out of atomic parts. The notion of atoms can be made compatible with creation of gross bodies. For example, the Nyāya posited the dyads as intervening between the impartite atoms and the gross particles, the motes. The dyads are atomic in dimension and size, but are divisible and have parts. Thus, conjunction of several dyads can give rise to the gross motes or bodies without running into the absurdities that Vasubandhu mentioned. Elsewhere I have discussed the Nyāya answer to the Buddhist critique of atoms, and hence I will not elaborate the point further.[1]

For a critique of idealism on epistemological ground let us first turn to Uddyotakara. The oldest, perhaps pre-Vasubandhu, form of idealism cited dream-experience etc., as examples where non-existent objects appear in consciousness. Uddyotakara countered : on what grounds are the objects of dream-experience etc., thought to be non-existent ? In fact, there are two senses of 'non-existence' which are distinct, and should not therefore be confused. One is what we can call temporal non-existence, and the other is non-temporal non-existence. When a thing does not exist before its coming into being and after its going out of existence, we can say that it has this temporal non-existence, i.e., it is temporally non-existent. But this temporal non-existence is hardly equivalent to what we understand by the term 'unreality'. The non-temporal non-existence is, on the other hand, equivalent to unreality. An unreal object, e.g., a sky-flower, is non-existent only in the second sense. To prove his contention, the idealist must show that dream-objects or objects of memory are non-existent not in the first sense, but only in the second sense. Usually, we declare dream-objects to be non-existent, because they are not

[1]See my *Epistemology, Logic and Grammar in Indian Philosophical Analysis*, pp. 52-4. My arguments there were based particularly on Uddyotakara; pp. 213-16.

apprehended by our waking experience. Uddyotakara analysed this proposition :

(1) If x is not apprehended by our waking experience then x does not exist.

Uddyotakara's first objection here was that the qualification 'waking' in the antecedent was redundant. The modified version (needed to prove the consequent 'x does not exist' by asserting the antecedent) would be :

(2) If x is not apprehended by our experience than x does not exist.

Then Uddyotakara proceeded to show that this conditional was, in fact, a contrapositive version (cf. *viparyaya*) of the following conditional :

(3) If x exists then x is apprehended by our experience.

Now it is a truism in logic, Uddyotakara argued, that the contrapositive will be true provided we previously proved the original sentence true. In Uddyotakara's words :

> If apprehension proves existence then it is warranted that non-apprehension proves non-existence.[1]

In other words, if non-apprehension has any power to prove non-existence, it is dependent upon the 'positive' relation, viz., upon the proposition: apprehension proves existence.

The idealist contended : the so-called object is not different from its consciousness, because it is merely an apprehensible (*grāhya*) like the feeling of pleasure or pain. The point is that the feeling of pleasure or pain although apprehensible through consciousness is not differentiable from it, and we can apply this argument to all objects of consciousness. Uddyotakara argued that this point would lose its force against the Nyāya view of pleasure and pain. For Nyāya, consciousness is only a particular cognitive state, and pleasure or pain is what is apprehended, i.e., cognized through that cognitive state. A particular state of feeling is what is an *internal* object as opposed to, for example, a table which is called an external object. But an 'object', whether

[1]*Nyāyavārttika*, pp. 521-4.
See Translation 4.

internal, or external, must be distinguished from its cognition inasmuch as the latter is an act (i.e., meaning of a verb) while the former is the accusative or patient toward which the action is directed.

Vasubandhu explained the particularity of, and distinction between, different cognitive states on the analogy of dream-states. Uddyotakara argued that even in dream experience, particularity and distinction are based upon the particular nature of comprehensible objects. If it is pointed out that the apprehended object is temporarily non-existent at the time of dream experience, Uddyotakara countered that this is simply the nature of any erroneous cognitive state, and the dream is only one type of many erroneous cognitive states that we usually have. The idealist may claim that all our cognitive states are, in a sense, erroneous, inasmuch as they externalize an object-form which is not external. Uddyotakara argued : this will be impossible to prove. A cognitive state is considered erroneous only when it is contrasted with a correct cognitive state, i.e., with a piece of knowledge. If there were no example of knowledge, how could there be any example of error ?

To underpin the distinction between knowledge and error, the earlier Nyāya analysed a piece of cognition, an event of awareness, as follows. In each piece of cognition, there are two different types of objects formulating that cognitive state. One is called *pradhāna*, the 'principal' object, and the other is called *tattva*, the 'contextual' object. In the wrong apprehension of a rope as a snake, the principal object is the snake (or, the snake-universal), whereas the contextual object is the rope which is present in the context. There are no cases of error without there being one principal object corresponding to it. Dream-experience is an erroneous cognitive state where the principal object is the common feature shared by both dream-objects and known external objects (or objects of our waking experience). Moreover, one *can* describe one's dream to the other, and thus a dream-object is also communicable through words. The expressibility through words, by virtue of which a dream-object becomes a public property instead of being exclusively private like a feeling of pain, is, in fact, grounded upon the common feature of particular things, i.e., universals. Elsewhere I have discussed the old Indian theory which states that 'the ground for application'

(*pravṛtti-nimitta*) of a word for expressing a thing is the universal or generic feature of that thing. Now, to the extent that we admit universals to be mind-independent or extramentally real, we have to admit that even our dream-experiences are grounded upon an external world. In short, according to Uddyotakara, the objectivity of our dream-experience is proved by its expressibility through words.[1]

Vasubandhu justified the non-privacy of our ordinary experiences by referring to the hell-example, the case of a common psychosis where the corresponding object does not exist. According to Uddyotakara, this explanation will run into contradiction. A particular hell-experience, viz., experience of a pool of filth (or blood), is also what Nyāya would call an erroneous experience, and thus it too depends upon what we have called the principal object, viz., the blood-universal and/or the pool-universal. And such 'principal' objects, as already noted, are grounded in waking experiences and thereby grounded in outside reality.

Further, according to Uddyotakara, an error or a delusive perception is usually in the form of a certitude (*niścaya*), a decision as opposed to a doubt (*saṃśaya*). A false certitude of the form 'This is a man' (where in semi-darkness there lies a tree-trunk in the visual field) is removed (i.e., destroyed) by the true certitude or knowledge of the form 'This is a tree-trunk'. But the object, i.e., the principal object, of the false certitude is not destroyed thereby because it does not happen that when the true certitude arises a man ceases to be man. Besides, according to Uddyotakara, there are definite causal antecedents to a false certitude. They are, broadly speaking, (a) perception of the common feature, (b) non-perception of the specific feature or distinguishing mark, and (c) superimposition of a definite specific feature which is actually absent from the context or situation. In this way, knowledge and error can be distinguished.[2]

[1]Ibid., p. 522.
"*na cittena paraḥ pratipādyate ity artho 'syo na sidhyati na hitarasvapnam anākhyātam itaro vijānātīti*
For the Indian theory of meaning and universals see my *Epistemology*... pp. 106-9.

[2]Ibid., pp. 524-5.
cf. "*niścayabuddher nimittam asti kim punas tat-? sāmānyadarśanam viśeṣādarśanam avidyamāna-viśeṣādhyāropa iti.*"

I shall next discuss the arguments of Kumārila, Jayanta and Bhāsarvajña, as they grappled with the problems raised by Dignāga and Dharmakīrti in defense of idealism. Kumārila refuted Buddhist idealism rather elaborately in two sections, *Nirālambana-vāda* and *Śūnya-vāda*, of his *Ślokavārttika*. Although some of his refutations amounted to sophistry, he nevertheless offered important criticisms of Dignāga's theory of self-cognition(*sva-saṃvitti*). In *Pramāṇasamuccaya*, Dignāga argued in favour of the 'self-cognition' theory by first asserting that a state of consciousness must have two appearances or forms: object-appearance and cognition-appearance. If this two-fold appearance of a cognitive state is not admitted then it would be difficult to explain, according to Dignāga, the recollection of a past cognitive state. Recollection is caused by the memory-impression of a previous experience. But we see that we recollect not only the object of previous experience but also our previous experience itself. Unless this two-fold appearance was present in our previous experience, we could not have recollection of the two in this manner. Dignāga argued that this proves further that each cognition is self-cognized. For, unless a cognition is self-cognized it can never be recollected. The Naiyāyikas hold that a cognition is not self-cognized, but cognized by another piece of cognition. According to Dignāga, this theory leads to an infinite regress because to make recollection possible the second piece of cognition must be cognized by a third piece of cognition and so on *ad infinitum*. Thus, Dignāga established that there is a self-cognition aspect in each state of consciousness where both the apprehensible and apprehension are revealed.

Kumārila disagreed on this point. The fact of recollection cannot establish the two-fold appearance of a cognitive state because, for Kumārila, what is recollected is always the object and never the previous cognition itself. According to Kumārila's theory of knowledge, a cognitive state is never perceived (i.e., apperceived) directly, but its occurrence is only inferred from what he calls the cognized-ness (*jñātatā*) of the object cognized. (see § 3.2.) Thus, when the object of previous experience is recollected, the previous experience may then be inferred indirectly (through *arthāpatti* 'indirect implication'). This, however, should not be confused as perception or even direct recollection of the cognitive state.

Besides, if apprehension and the apprehensible were in fact identical, it would be difficult to explain some recollection, for example, of this form: "I do not remember what I apprehended at that time." Here is a recollection of the occurrence of an apprehension but the form of the apprehensible, the object, is for some reason left out of the recollection. If apprehension and the apprehensible were identical, this would not have happened.[1]

Jayanta repeated this point of Kumārila while he tried to refute Dharmakīrti's classic argument mentioned above, an argument based on 'togetherness.' Both, the Naiyāyikas like Jayanta and the Jainas like Akalaṅka, mounted an attack on Dharmakīrti by pointing out that the expression 'together' used in Dharmakīrti's reasoning implied difference rather than unity. But this is only a verbal slip because Dharmakīrti's meaning is quite clear: Blue and the cognition of blue are identical because they are apprehended always by the same apprehension. As against this position, Jayanta held: a piece of cognition does not cognize itself. A cognition or a state of consciousness is not self-luminous and hence self-cognition is not an acceptable theory. It is possible to cite many counter-examples where the apprehensible blue appears in the cognition "This is blue", but its apprehension, i.e., cognition, does not appear there. Hence it is possible to claim that there are cases where *blue* is apprehended but its cognition is not apprehended. An apprehension of the cognition of blue will be of the form "I know that this is blue." Using Kumārila's example "I do not remember what I actually apprehended at that time," Jayanta argued that we have a counter-example where the mere apprehension is recollected without the recollection of the apprehensible object.[2]

[1]Kumārila, p. 221.
cf. "*na smarāmi mayā ko 'pigṛhīto 'rthas tadeti hi*
smaranti grāhakotpāda-grāhyarūpavivarjitam
tasmād abhinnatāyām ca grāhye 'pi smaraṇam bhavet
grāhakasmṛtinirbhāsāt tatrāpy eṣaiva gṛhyate"
tadatyantāvinābhāvān naikākāraṃ hi jāyate
anvaya-vyatirekābhyāṃ siddhaivaṃ bhinnatā tayoḥ
Śūnyavāda, verses 83-85.

[2]*Nyāyamañjarī*, p. 110.
kvacic ca grāhyākārānupaśliṣṭakevalagrāhakā-

Dharmakīrti has argued that perception of an object is not established for him who has not *apperceived* the perception.[1] But the Nyāya argues that perception of an object is, in fact, possible even when the apprehension (of the object) is not *apperceived*. For as soon as the object is apprehended we can say that perception of the object has taken place; we do not need to wait until and unless apperception of that perception has taken place. In other words, the object is revealed as soon as the perception arises, and not when the perception is perceived (i.e., apperceived). Arising of perception and apperception of that perception are two different facts which may happen at two quickly succeeding moments but they should under no condition be confused as one and the same fact. Perception can reveal objects when it itself is not revealed.

Jayanta also pointed out that the analogy between a lamp and a cognitive state to prove their self-revealing character is really faulty. "Cognition reveals itself" involves only a bad metaphor for "cognition cognizes itself" or "cognition makes itself known". It is not also proper to say that a lamp reveals itself. In fact, a lamp too depends upon other conditions to reveal its own self. The eye-organ receives or apprehends other objects depending upon the lamp, i.e., light, whereas it apprehends the lamp more directly. But to make its own self known, the lamp has to depend upon the eye-organ, etc. And strictly speaking, this would not establish the self-revealing character of the lamp or light.[2]

Dignāga pointed out that there would be an infinite regress in the Nyāya theory of apperception. But as explained above, origin of perception (and not apperception of perception) amounts to the revealing of the object. Thus, we do not need to have all our perceptual (in fact, all our cognitive) states apperceived. In order to make our recollection of previous experience possible,

---

vamarśanam api dṛśyate "na smarāmi maya ko 'pi gṛhīto 'rthas tadeti hīti".

[1]Cf. *apratyakṣopalambhasya nārthadṛṣṭiḥ prasidhyati.* Quoted in *Nyāyabhūṣana*, p. 108, and in *Nyāyamañjarī*, pp. 104 and 108. Jayanta notes: *apratyakṣopalambhasya ca pratyutārthadṛṣṭiḥ siddhyati, upalambhotpāda evārthadṛṣṭir na punar upalambhadṛṣṭiḥ* |

[2]*Nyāyamañjarī*, p. 108

we have to admit that the previous cognitive state was therefore apperceived. Apperception of apperception is, however, ruled out because although we recollect that we know such-and-such, we seldom recollect that we knew that (we) such-and-such.

Dharmakīrti's argument based upon 'togetherness' of *blue* and cognition of *blue* has been criticized by Bhāsarvajña as follows: Does the apprehension, which, according to Dharmakīrti, is said to apprehend both the cognition and the object *blue*, apprehend also their difference or not? If it does not apprehend their difference, we should never be able to refer to them differently by two different expressions. In other words, if the difference is not registered in the apprehension, it cannot be registered in the linguistic expression of such apprehension. If, however, the difference is registered in the apprehension, why should we mistrust it? If it is argued that the said appearance of difference is wrong, like the appearance of two moons before our diseased eye, Nyāya counters that this is untenable. The appearance of two moons is wrong but their two appearances (one real moon and one unreal) are certainly distinguishable. Similarly, the object-appearance and the cognition-appearance should certainly be distinguishable. The appearance of two moons is considered wrong because we can cite a case where there is the appearance of only one (viz., in true perception of the moon). But the object-appearance and the cognition-appearance cannot be declared as identical unless there is a case where the two appear as one. Thus, self-cognition, if it registers difference between object and cognition, cannot prove their identity.[1]

Jayanta has repeatedly pointed out that even the doctrine of self-cognition is not immune to the fault of infinite regress. If the object-form being the apprehensible is apprehended by the cognition-form, and this cognition-form is apprehended by the self-cognition, then by the same token the cognition-form has also the form of an apprehensible and self-cognition would have the form of its apprehension. If the self-cognition obtains a form in this manner then it is liable to be apprehended by another apprehension and so on *ad infinitum*. The point is that the charge of infinite regress is only a formal fault and does not further the argument in either case.[2]

[1]*Nyāyabhūṣaṇa*, pp. 132-3.
[2]*Nyāyamañjarī*, p. 15.

To come back to Bhāsarvajña. It may be argued that if a cognition is not self-cognized, it loses its power of revealing anything (cf. *aprakāśa*). Bhāsarvajña countered: if the rule is that the loss of the power of revealing anything means the loss of the power of making itself known, then we have eye-organ etc., as counter-examples. The eye-organ can reveal something without being cognized itself. If, however, the loss of the said power means loss of illumination (as in the case of a lamp), it is a case of bad metaphor. Only light has illumination and cognition is not the same thing as light or lamp. It is only poetic to say that cognition has illumination. If, however, the loss of the said power means the loss of its nature (essence of being consciousness), then it is untenable. For certainly a thing does not lose its nature (or essence) if it goes unrecognized. Flowers will have fragrance even if there were nobody to smell them. It may be asked: without self-cognition what else could constitute the nature (essence) of a piece of cognition? The Nyāya answer is that the essence or nature of a piece of cognition is simply the common property (a generic property) of all pieces of cognition, viz., the cognition-universal or the cognitionhood. This property can as much be identified with the feature of self-cognition as the nature of fire can be identified with the property of burning its own self, or as the nature of a knife can be identified with that of cutting its own self.[1]

Before we conclude our critique, let us ponder a little over the doctrine of *vāsanā* and that of *ālaya*. The Buddhist mechanism of *vāsanā* can be explained as follows. Each experience leaves its trace behind, which becomes a part of the ever-increasing volume of such residual forces. This volume is, in its turn, said to determine the nature and content of our next experience. The Nyāya criticizes it as follows: Since there is no soul or individual personality to carry this ever increasing volume or burden of the *traces* of past experience, the question arises: is this burden different from, or identical with, the consciousness series? If it is held to be different then the theory of 'consciousness only' will be at stake. If it is identical with consciousness, then we would have to admit that this stroehouse of latent traces is also ever fluctuating along with the consciousness series. In fact, we have

[1]*Nyāyabhūṣaṇa*, pp. 137-9

to concede the oddity that millions of *latent traces* are also dying every moment, and creating new *latent* traces. Asaṅga and Vasubandhu developed the *ālaya* doctrine, 'storehouse consciousness,' to account for the continuity of latent traces in the form of seeds through ever-fluctuating states of consciousness. But this *ālaya* again, has to be conceived as an ever fluctuating series receiving new seeds and dispensing with some old seeds through fruition at every moment. For further discussion see 4.7.

Realists like Kumārila and Jayanta found this concept of *ālaya* very difficult to accept. For, under this theory, not only one has to imagine the momentary, fleeting states of consciousness (no matter whether it is the *base* consciousness or *ālaya*, or the *surface* consciousness or *vijñapti*) as the container or substratum of innumerable latencies or traces, but also one has to concede the actual and instantaneous arising and destruction of such innumerable latencies. Only when a latency or seed reaches its maturity (*vipāka*), it produces a particular form of experience. But the question is: why should we talk of the dying of innumerable latencies when we will have to say that these latencies as latencies come to life again in the next moment.[1]

Some Buddhists draw the analogy of 'perfuming' one thing with the other. In other words, latencies are transferred from one consciousness state to the other just as the perfume of one thing is transferred to the other by association. Jayanta argued that this analogy was misconceived. Perfume is a (physical) part of the thing that possesses it, and transference of the perfume is, in actuality, the transference of this subtle 'physical' part of one thing to the other. But the Buddhist postulates that one state of consciousness is totally annihilated before the other state arises in its place (cf. *niranvaya-vināśa*). But the notion of 'perfuming' will involve not total destruction but only partial destruction with traces left behind. Besides, if the state of consciousness is only momentary, how can it transfer its perfume to the other state. For, ordinarily, a thing has to stay longer than just a moment in order to transfer its perfume to another thing.[2]

[1]*Nyāyamañjarī*, p. 114. *na cālayavijnānaṃ kiñcid asti, saty api tasminn aśeṣavāsanāsahasra-samāśraye tatkṣaṇikatvāt sakṛdeva tathāvidhavāsanānukūlajñānavinaśaḥ syāt.*

[2]*Nyāyamañjarī*, p. 113, continued next page.

I have given the philosophic formulation of the Yogācāra idealism and also shown formulations of some classical objections to such a philosophic position. Whatever might have been the motive or driving force behind this refutation of external/material world as unreal and unfinal, it was received with all philosophic seriousness in India (as the above sketch tends to show). The opponents who disagreed with idealism tried to provide philosophic arguments, rather than religious or theological skirmishes for the refutation of idealism. Very seldom was an appeal made, in this philosophic dispute, to religious faith, either Buddhist or non-Buddhist. Thus, I see in this controversy between idealism and realism, in their formulation as well as refutation, one of the most interesting developments in the history of Indian philosophy. After considering the period in history as well as the sophistication of the arguments, I am inclined to believe that this constitutes a very important part of our heritage, that is, our philosophic heritage in the global sense. I wish to underline this global sense of our philosophic heritage by repeating a belief of mine which was expressed in the preface to my first book: "India should not, indeed cannot, be left out of any general study of the history of logic and philosophy."[1]

To briefly review the issue at hand: There is a sense in which the arguments of the idealist seem to be very convincing. They do make a very strong case for the position that we are indeed shut up in our ideas, or that the essence of a thing consists in its being experienced. Beyond this, however, I would not be inclined to concede anything further. It would, for example, be wrong to assume that the idealist has *deductively* proved his thesis. All that the idealist has succeeded in doing is to warrant a claim of this type: As far as the available evidence goes, the assumption of the reality of the material world may be false. But to cast a reasonable doubt over our uncritical assumption of the existence of the material world is not the same thing as proving the falsity or unreality of the external world. For implied in the notion of unreality of the material world is a theory of a supersensible world which is believed to be real and even more valuable. But this becomes more a matter of religious faith than a philosophic

nir-anvaya-vināśāc ca na tadaṃśo 'nuvartate
yataḥ kathañcid vāsyeta pūrveṇa jñānam uttaram

[1]*The Navyanyāya doctrine of Negation*, Preface, p. X.

point. As long as we are on philosophic grounds, we can accept the fact that the idealist can within reasonable limits challenge our beliefs in the external world. But we may again point out that to be able to challenge a belief does not amount to destroying that belief, let alone replacing that belief with another, equally questionable, belief, i.e., belief in 'consciousness only'.

The idealist is also guilty of an illegitimate generalization. First, a doubt whether the external world exists independently of mind or not is simply used by the idealist to challenge a certitude about the independent existence of the external world. But it is also taken (illegitimately, I believe) here to establish the opposite certitude that the external world *does not* exist independently of consciousness. This is, in fact, an illicit extension of the function of doubt. Nyāya seems to be justified in pointing this out.

Second, the Idealist relies on a very questionable generalization step. From an examination of some of our experiences where the so-called object of experience is actually an object *in* experience (such as dreams, delusions and hallucinations), the idealist takes a big step forward to conclude that all objects of our experience are, in fact, objects in experience, and hence, do not exist independently of it. This is a generalization based on insufficient grounds, and hence, logically not beyond censure. Even as a persuasive argument it is not adequate. For, the notion of the external objects is so ingrained in us that it will need much stronger persuasion in order to dislodge it. But if the idealist's arguments are intended simply to awaken a religious awareness in us to follow the path of meditation and *nirvāṇa*, I would not subject it to logical scrutiny. I can admit that the arguments could be more persuasive to a religious mind.

A Jain philosopher, Akalaṅka, had the insight to point out that the reasoning of the idealist is as fallacious as the reasoning used by the Naiyāyika to prove the existence of God as the intelligent creator of the world. Having seen that certain things that have structures and composite forms, such as a chair, a pot, are produced by an intelligent or sentient agent, the Nyāya generalizes that all things that possess a structure must have an intelligent creator, i.e., God. The idealist, according to Akalaṅka, takes a similar illicit step.[1]

[1]Akalaṅka, p. 43, continued next page.

Last but not the least, if the idealist challenges the realist to prove conclusively and beyond doubt the reality of the material world, it might only be a good strategy in public debate. For even if the realist fails to prove his thesis conclusively (as he may very well fail if he falls into the trap set by the idealist), this will not, in my opinion, constitute a good vindication of idealism. A realistic interpreation of error, hallucination and dream, is indeed possible, and the Nyāya theory in this regard is not, in my opinion, very far from the truth. But construction or consistent description of a realistic metaphysic is another matter. Partial failure in this respect will not constitute a justification of idealism. A realist may even refuse quite consistently to describe an ontological system. For, it is the idealist who has challenged the commonly shared beliefs, and so it behoves him to establish his thesis conclusively.

By way of documentation, I wish to present here excerpts from certain relevant texts in translation:

Translation of Relevant Texts

1. *Sandhinirmocana-sūtra* (pp. 60-61)

[The translation is by the author from Lamotte's Sanskrit reconstruction.]

> "There are, Guṇākara, three *dharma*-characters. What are these three?
> They are, to be sure, (1) the imagined character, (2) the dependent character and (3) the perfected character.
>
> "Now there, Guṇākara, what is the imagined character of dharmas? It is, to be sure, the determination of descriptive names of *dharmas* (elements of reality) through their essential or peculiar attributes so that there may be linguistic usages and conceptual communications.
>
> "What is, Guṇākara, the dependent character of dharmas? It is surely the dependent origination of dharmas: 'That being there, this arises'; 'from the origin of this, that originates'; '*saṃskāra*' (mental forces) arises depending upon

sanniveśādibhir dṛṣṭair gopurāṭṭālakādiṣu
buddhipūrvair yathā tattvaṃ neṣyate bhūdharādiṣu
tathā gocaranirbhāsāir dṛṣṭair eva bāhyādiṣu
ubāhyabhāvanājanyair anyatrety avagamyatām.

a-vidyā (wrong notions) and so on. In this way, this great mass of that consisting exclusively of sufferings (*duḥkha*) arises.

"What is, Guṇākara, the perfected character of dharmas? It is, to be sure, 'thusness' of *dharmas*. Understanding of this (character) is the cause of the strength of a *bodhisattva*, the ground for contemplation or fixation of the mind upon the ultimate root. As meditational process takes place as a result of this understanding, there arises the unsurpassable climax of enlightenment.

"Just as, Guṇākara, there is the *timira* defect in the eye of a person who is suffering from *timira* disease, in the same way we should understand the imagined character.

"Just as, Guṇākara, due to *timira*-disease there appear before that (diseased) person strands of hair or black bees or (black) sesame seeds, or dark objects, or yellow objects, or red objects or white objects, in the same way we should understand the dependent character of dharmas to be.

"Just as, Guṇākara, there are natural appearances of correct objects before that eye of that very person when the eye-sight is purified and cured of the *timira*-disease, in this very fashion we should understand the perfected character (of dharmas) to be."

2. Dharmakīrti: *Pramāṇavārttika*

[The translation is by the author.]

Since the (cognizable) object is invariably apprehended along with its cognition, in what manner could we establish the object as distinct from its cognition?

Distinctness is apprehended (however) by persons having illusory vision, just as the two moons appear to a person with the diseased eyesight. There is no invariability in the apprehension of two (really) distinct things, viz., the blue thing and the yellow thing.

There is no (cognizable) object which is unapprehended, and it is not seen that there is a cognition which is being apprehended without the (cognizable) object. Thus, there cannot be any distinction between these two (cognition and object).

Therefore, it is irresistibly concluded that the (cognizable)

object which appears at the time of cognition is indistinguishable from its cognition.

Pratyakṣa pariccheda, verses 388-391.

3. Vātsyāyana

[The translation is by the author.]

Nyāyasūtra 4.2.31-32

Supposition of 'the means of knowledge' (*pramāṇa*) and 'the objects of knowledge' (*prameya*) resembles the supposition of dream-objects.

Vātsyāyana: Just as in a dream objects do not exist but are supposed to be there, similarly the means of knowledge and the objects of knowledge do not exist but we (only) suppose that there are objects of knowledge and means of knowledge.

NS 4.2.33 [Answer] This argument is not established because it is not based on a reason.

Vāt.:

There is no reason to prove (conclusively) that the means and the objects of knowledge are only supposed to be there like the supposition of objects in a dream, and that they are not known like the objects of waking experience. Therefore, the (above) argument is not established for there is no reason. (See *NS* 4.2.33)

Moreover, there is no reason to maintain that unreal objects are cognized in a dream experience.

[Objection] (The reason in the latter case is:) "Dream objects are not cognized when one wakes up."

[Answer] Since the objects of waking experience are cognized their existence is not refuted. (To explain): If the objects in a dream are proven to be non-existent because they are not apprehended when one wakes up, then (at least) those objects that are apprehended by one at one's waking state are proven to be existent because of their being apprehended (at the waking state). For, the reason becomes adequate in the 'contrapositive' case. If existence is established through apprehension then non-existence can be established through non-apprehension. If not the first, then non-apprehension cannot be an adequate reason for proving non-existence. For

example, when the lamp is absent, visible colour cannot be seen. Thus, here the negated version is justified by the positive case: (e.g., when there is a lamp present, we see a visible colour, and thus, non-perception of visible colour can be said to be due to the absence of a lamp).

One must also assign a reason for regarding dream-objects as (products of) imagination. (To explain:) He who says that the means and objects of knowledge are like the supposition of dream-objects should speak about a reason on the basis of which the dream-objects are (said to be mere) imagination. Certain dreams are inspired by fear, certain dreams are inspired by joy, some dreams are different from both of these two types, and sometimes we do not (even) dream (while asleep). Supposition of dream-objects have their 'causal antecedents' (*nimitta*) and the imagination of these objects is justified by the imagination of the causal antecedents.

NS 4.2.34 Supposition of dream-objects resembles supposition of objects in an act of remembering or desire (or determination to obtain).

Vāt.:

Such objects as have been previously known (or apprehended) become the objects of supposition in a dream, just as they become objects of supposition in an act of remembering, etc. Just as both an act of remembering and a desire to obtain have as their objects things which have been previously apprehended (in consciousness), and hence they cannot invalidate (the existence of) such things, so also the cognition of objects in a dream has for its objects previously apprehended things and such a cognition likewise cannot invalidate (the existence of) such things. Thus, objects of our dream-experience are already apprehended by our waking experience.

He who sees a dream while asleep surely wakes up and remembers the dream-experience—"I saw this (in a dream)." There he becomes certain that his supposition of dream objects is false on the basis of his experience when he wakes up. (To explain:) When dream objects are being remembered, one becomes certain by virtue of the waking state of

one's consciousness that the supposition of dream objects is false.

If there was no distinction between the two (dream and waking experience), the reasoning will be meaningless. (To explain:) When one does not accept a distinction between the dream and the waking experience, the reasoning that the means and objects of knowledge are like supposition of objects in a dream will be meaningless because the basis of that reasoning will (thereby) be rejected.

Certitude (of a person) that it is *x* with regard to something that is non-*x* has as its (objective) basis a 'principal' object (*pradhāna*). (E.g.:) Certitude that *this is a man* with regard to a tree-trunk which is not a man depends upon a 'principal object'. Surely, if some man or other were never known before, one cannot have, with regard to something which is not a man, a certitude that *this is a man*. Thus, certitudes of dream objects which are expressed as "I saw an elephant", or "I saw a mountain", should have as their (objective) bases some 'principal' objects.

NS 4.2.35 False apprehension is destroyed by true apprehension, just as the supposition of a dream object is destroyed at the waking stage.

Vāt. :

Certitude that *this is a man* with regard to a tree-trunk is called a false apprehension—it is the cognition that it is *x* with regard to that which is non-*x*. Certitude that this is a tree-trunk with regard to a tree-trunk is called true cognition. It is the false apprehension that is rejected by the true cognition, but not the object which is the generic character of either being a tree-trunk or a man. Just as the state of consciousness at the waking stage rejects the supposition of objects in a dream, but not the generic character of objects is thereby rejected, so also where there is a cognition of a magic show or castles in the cloud, i.e., the certitude that it is *x* with regard to what is a non-*x*, the false apprehension is destroyed by the true cognition, but the object is not thereby rejected.

False cognition in a magic show and the like has also a 'material' condition. When a man taking a piece of subs-

tance, whose character is familiar, uses tricks and creates a false certitude (that it is a different thing) in the mind of others, it is called magic. Configuration of thick mist, etc., in the manner of a city or castle generates from a distance the cognition of a city or castle. For, when such mist, etc., are not present, the impression of a city or a castle (in the cloud) does not appear. The impression of water is generated by the vibrating sun-rays connected with the terrestrial heat, for we apprehend here the common character (i.e., vibrating brightness). Thus, the false cognition is not without its causal antecedents because it happens at some place at a certain time in a certain person.

It is seen that these are two distinct cognitive states, one belongs to the magician and the other is that of the spectator —one is that of the distant person with regard to a cloud-castle and mirage, and the other, that of the person who is standing close-by; with regard to a dream object, one cognition is that of the sleeping person and the other is that of the same person while he is awake. This distinctness of cognitive states cannot be explained if there were nothing that exists, or if eveything were unreal and without essence.

NS 4.2.36 A cognition is to be thus understood, for we apprehend its causal antecedents as well as its coming into being.

Vāt. :

Just as the object cannot be rejected, so also the false cognition cannot be rejected. Why ? For we apprehend its causal antecedent as well as its coming into being. The causal antecedent of a false cognition is certainly apprehended by us. And the false cognition itself is also apprehended (apperceived by an individual) as it originates in that individual, for it is subject to mental perception (since it is a mental state). Therefore, a false cognition also exists.

NS 4.2.37 Since there is a distinction between *tattva*, the 'contextual object' and *pradhāna* 'principal object', the duality of a false cognition is justified.

The 'contextual object' is the tree-trunk, the 'principal object' is the man. With regard to the tree-trunk there arises a false cognition that *this is a man* because while the

distinction between the 'principal object' and the 'contextual object' is not eliminated their common character is (nevertheless) comprehended.

Thus, there arises false cognition of a circle of flying ducks in a flying banner, of a (flying) pigeon in a (falling) pebble. There are no false cognitions co-present with the objects (they reveal) because they (false cognitions) are dependent upon the comprehension of a common character (among several objects). For him according to whom everything is without essence and unreal there may arise false cognitions which are co-present in the same object.

4. Uddyotakara: *Nyāyavārttika* (pp. 521-525) V.P. Dvivedin's edn., 1916.

[The translation is by the author.]

It is not true that the means of knowledge and the objects of knowledge are supposed (to be existent) like (the objects in) a magic show, or the appearance of a castle in the cloud, or a mirage. For this (thesis) cannot be proved.

No reason is given when it is asserted that unreal objects are being supposed (to be existent) like dream-objects. What reason is there to maintain that the objects in a dream-experience are unreal ?

[Opponent:] The reason is what is called *khyāti* (appearance of objects in experience). The reason for maintaining the thesis, viz., objects that are apprehended at the waking state of consciousness, do not have a separate existence from consciousness, is the appearance of objects as in a dream.

[Answer:] No. Your example (i.e., the dream-example) stands in need of a proof just as does your thesis.

What is the reason for believing that the objects that appear in a dream-experience are not distinct from the (dream-) consciousness ?

[Opponent:] The objects do not exist since they are not apprehended by the waking person.

[Answer:] If you think that these objects do not exist just because they are not apprehended by the waking person, then you are wrong. For you have added a qualification (unnecessarily).

It is implied that those objects that are apprehended by

the waking person exist. And the qualification, those "that are not apprehended by the waking person" is superfluous.

If you argue that the objects that are apprehended either in the waking experience or in a dream are unreal but the consciousness (of such objects) exists, (we ask:) what could be your reason ?

The fact of being not apprehended by the waking person cannot be cited as a reason because it is incapable of establishing the 'contrapositive' (*viparyaya*; viz., apprehension of objects by the waking person proves their existence).

If apprehension proves existence only then it is warranted that non-apprehension can prove non-existence.

It is contended that the reason should be capable of establishing the 'contrapositive' thesis (viz., apprehension proves existence).

[Opponent:] The objects are not distinct from the consciousness (of them) because they are subject to comprehension (by the consciousness) just as a particular feeling (of pain) is. Just as that which is apprehensible (*grāhya*) like a particular feeling, is not distinct from consciousness, so also the objects are not distinct from consciousness.

[Answer:] A feeling is a feeling of either pleasure or pain. Consciousness is a cognitive state (of mind). A cognitive state is distinct from pleasure or pain. Therefore, your supporting example is not correct. Pleasure and pain are what are apprehensible, and their apprehension is a cognitive event. Thus, the apprehensible must be distinct from its apprehension.

If you argue that consciousness is identical with the feeling (i.e., pleasure or pain), we still say that there is no supporting example where the apprehensible and the apprehension are (undoubtedly) identified with each other. For, an act and the object to which that act is directed cannot be identical with each other.

If you wish to establish identity (between apprehension and the apprehensible) without caring for the evidence, the means of knowledge, you establish (only) four 'personality' aggregates (instead of five, by equating feeling with consciousness); and this will contradict your doctrinal position (that there are five 'personality' aggregates, viz., aggregates

of matter, feeling, perceptions, mental forces and consciousness).

If you do not accept even four aggregates but admit consciousness only that is (commonly) experienced, we then counter: since there are neither internal not external objects to account for the distinctness of the states of consciousness, how can you explain the distinction of different states of awareness?

[Opponent:] One state of awareness is different from the other just as one dream is different from another.

[Answer:] Even in that case, the distinction of awareness states should be explained as owing to the comprehension of (different) things, that are observed and experienced. If, in the case of dreams also, the distinction of awareness states is asserted to be owing to the difference of comprehension, then we counter by pointing out the distinction of comprehension from the comprehensible. The comprehensible cannot be identical with comprehension.

All the dream-experiences that reveal cities, birds, gardens and chariots distinctly, are erroneous cognitive states. And these erroneous cognitive states originate, sharing the generic features of the waking cognitive states.

[Opponent:] In my theory, all cognitive states will be held to be erroneous.

[Answer:] If you say that, we ask you to point out the 'principal' object (*pradhāna*) in such errors. There cannot be an erroneous cognition which is without any 'principal' object.

Moreover, he who does not accept that the objects are distinct from consciousness, should be countered with the refutation of this reason based upon the examination of its nature.

Is the nature of the object (in a dream) that of being external ? If so, then the position becomes contradictory (viz., what is internal in consciousness is said to be external).

Is the nature of the dream-object that of being consciousness ? If so, then the dream-object cannot be established because the states of consciousness cannot be communicated to others. For, if the dream of one person is not expressed in words, the other person would not be able to know it.

[Opponent:] The states of consciousness taking the 'forms' of words are conveyed to others.

[Answer:] He who says this should explain the meaning of the word 'form', *ākāra*. The 'form' (in this context) is the apprehension by which something non-x appears as x depending upon the similarity of the 'principal' object, (e.g., "This is a snake"—this wrong apprehension has taken the 'form' of a snake with regard to something that is not a snake but has similarity with the 'principal' object, i.e., a snake).

Also, in your view, words are not real, and hence the sentence "the consciousness-state takes the 'form' of words" is a statement without a reference.

He who does not accept that objects are distinct from consciousness, should also be asked to explain the distinction between a dream and a piece of waking experience. The objects are non-existent as much in the waking experience as in the dream; hence, wherefrom could there be such a distinction as reflected in the statement "This is a dream and that is a waking experience ?"

Even the discrimination of what begets merit and what begets demerit cannot be established (under your view). For, just as one does not incur demerit by having illicit sexual relations in a dream, so also one should not (in your theory) incur demerit by doing so in the waking state.

[Opponent:] The (said) discrimination is maintained by the fact that in one case the person is overwhelmed with slumber, while he is not so overwhelmed in the other case.

[Answer:] This is also wrong. How does one know that this odd behaviour of the mind is caused by the influence of slumber ?

[Opponent:] The clarity and unclarity of the states of consciousness distinguish the dream stage from the waking stage.

[Answer:] You will have to explain the notion of clarity and unclarity without taking recourse to the objects (which are, according to you, non-existent).

[Opponent:] It has been seen that states of consciousness can be distinct even when their objects are non-existent. For example:

The departed spirits originating from the maturation of similar 'residual forces of action' (*karma*) see a river full of filth. No river is actually present there, nor any filth. One thing cannot be many. But the states of consciousness are

seen to be distinct, for some spirits see the same as a river full of water, and some others see it as a river full of blood. Thus it is ascertained that consciousness alone arises in different forms in the manner just described, depending upon its internal conditions while the external objects as its conditioning antecedents do not exist.

[Answer:] This is wrong because it runs into contradiction. If you say that consciousness appears in different forms in this manner while the external condition does not exist, we then ask: How is it so ?

If consciousness takes the 'form' of blood, you should explain the status of this blood. What is the status of this blood ? In the same way, one should raise questions about the 'form' of water or the 'form' of the river. When each word in the sentence "They see a river of filth", is examined by analysis, the sentence becomes devoid of any objective reference if the aggregates of matter etc., did not exist.

Regulation of place and time is also not possible. The departed spirits see the river full of filth in a particular place, not in just any place whatsoever. If objects did not exist, the reason for such regulation of place would have to be explained.

If, for a person, the existent object is determined by some 'form' or other, then it is proper to hold that some of his cognitive states are erroneous. False cognitive states do not reject (the existence of) the 'principal' object. Thus, one should point out the 'principal' objects in the cognition of the river of filth etc. What applies to the cognition of the river of filth etc., is also applicable to the cases of the magic show, appearance of the castle in the cloud, and mirage-water.

[Opponent:] "You imagine the 'perfuming' of action (*karma*) to be in one place and the result of it in another place." (Vasubandhu, *Viṃśikā*). The meaning of this (line) is: The (corresponding) result should be there where the action takes place. For him who takes objects to be different from their consciousness, the action will happen in one place while its result will be in another place, and thus the action and its

result will have different substrata (but cause and effect are supposed to have the same substratum).

[Answer:] This is not true, for I do not concede the point. I do not concede that the action and its result are occurring in different substrata. The action is located in the self (*ātman*) and the result is also in the same locus. Thus, the (supposed) fault (in my position) is rejected.

The objects (of my consciousness) are different from my consciousness because they possess generic features as well as specific features. They are distinct just as my consciousness-series is distinct from the consciousness belonging to another personality-series (i.e., another person).

The objects are different from consciousness because they can be established (as external) by means of knowledge. Also because they are 'effects' (*kārya*, 'causally conditioned'), they are temporal, and they are preceded by residual traces of action (*dharma*).

5. Madhyānta-Vibhāga-bhāṣya 1.4
"na tathā sarvathā bhāvāt"

The meaning is admittedly not clear. Sthiramati comments: *na tathā 'stitvān na ca sarvathā nāstitvāt tadgrāhyagrā-hakapratibhāsam utpadyate*. I wish to thank Dr. S. Katsura for pointing this out to me. The possible translation would be "(*Abhutaparikalpatva* is established), because it does not exist as (it appears) and because it is not non-existent in every respect."

§ 3.4 : Memory

One of the main disagreements of the Jaina *pramāṇa*-theorist with all the non-Jaina philosophers was concerned with the status of the memory-experience. Memory-experience was never regarded by any non-Jaina philosopher (a Naiyāyika or a Buddhist) to constitute a piece of knowledge, a *pramā*, a cognitive awareness which amounts to truth. Or, to put it in another way, while perception and inference were regarded as valid means or ways of knowing, memory was never regarded as a means of this kind. The Jaina philosopher, on the other hand, contested this position

and regarded memory as another source of non-perceptual knowledge by refuting the arguments of the Naiyāyikas and the Buddhists. Pandit Sukhlalji argued, in his *Advanced Studies in Indian Logic and Metaphysics*, that this dispute was primarily due to the reluctance of the non-Jaina philosophers to extend the use of the term '*pramā*' to memory-experience. All philosophers agree with the Jainas on the point that if a memory-experience happens to be a revival of a veridical past experience, perceptual or non-perceptual, then it is also veridical. But they apparently want to use the term *pramā* in a restricted sense so that a veridical experience would be called a *pramā*, only if it is not the repetition or revival of a past experience. To quote Sukhlalji:

> That mnemic cognition is true of facts is acceptable to all (Indian logicians), and so there is no material difference of opinion on this issue; the difference only arises when some agree and others refuse to call memory a *pramāṇa*. (p.46)

Panditji, however, tried to give a historical explanation of this reluctance on the part of the Hindus, and a doctrinal explanation of the same on the part of the Buddhist. In the Hindu tradition, *smṛti*, the term for memory-experience, was also used to denote the *dharmaśāstras* as opposed to *śruti*, the Vedas. Now, since it is the cardinal doctrine of the Hindus that the *dharmaśāstras* are dependent upon the Vedas for their authoritativeness on *dharmas* and are not independent sources of knowledge about *dharma*, *smṛti* cannot be called a *pramāṇa*. To wit : There is a systematic ambiguity in the word *pramāṇa* (=*pramā*), for, it can mean either a means of knowing or an authority, or a source for knowledge. Therefore, if *smṛti* which meant *Dharmaśāstras* was not an independent *pramāṇa*, then by extension *smṛti* which also meant memory-experience, could not also be a *pramāṇa*.

The Buddhists, however, had a different reason, according to Sukhlalji. In the Buddhist theory, any cognitive experience that involves thought or construction (*vikalpa*) would be excluded from being a *pramā* or *pramāṇa*. Thus, since memory involves thought, it cannot be a *pramā*.

While Sukhlalji's explanation is ingenious, it does not certainly seem to be the whole story. If from above one surmises that the dispute between the Jaina and non-Jaina philosophers on the status of memory was mainly terminological, it would be wrong.

I believe that was not certainly the intention of Sukhlalji. I shall try to focus upon the deeper reasons for the dispute over memory-experience, and the consequent difference in theories of knowledge between the opposing parties.

There is something odd in calling a memory-experience an event of knowing, for the description of this experience is usually prefixed with "I remember". What I remember is another experience, another (past) cognitive event. If the past event amounted to knowing and if my present memory is not "playing tricks" on me, I can now remember correctly what I had experienced. My present experience is also aware of the fact that what is coming to my mind along with my awareness of it is a past event. But an event of knowing is different from an event of remembering the first event of knowing. If the first event amounts to knowing, it does not follow that the second would be veridical, for, I may remember incorrectly. The converse also is not true. If I remember correctly, i.e., my memory is "fully" revived, it does not follow that the first event was an event of knowing. If veracity is allowed to function as a qualifying property of a cognitive event when and only when it amounts to an event of knowing (a *pramā*), it cannot be regarded as automatically transmissible from the first type of events (events of cognition) to the second type of events, events of remembering a past cognitive event. This is, I think, at least one of the good reasons for the reluctance of the non-Jaina philosophers to regard a memory-experience as a *pramā*, an event of knowing.

I wish to connect the above argument with the traditional arguments found in the *śāstras*. The tradition of the non-Jaina philosophers (in this, the Mimāmsakas, some Naiyāyikas and the Buddhists agree, see Sukhlalji[1]) argues that a cognitive event becomes an act of knowing, if it grasps or reveals a fact that has not been revealed or grasped before (cf. *a-gṛhītagrāhitva*). In other words, a fact not known before is what is supposed to be grasped by an episode of knowing. An episode of remembering, therefore, can hardly qualify to be an episode of knowing unless, of course, the very fact of my knowing the original fact was not known to me before. If the veracity of a cognitive event is made dependent upon its grasping a novel fact, then another event which *repeats* the first in the sense that the fact grasped in the first is the

[1] S. Sanghavi, p. 45.

same as that in the second, cannot claim the property 'veracity'. For, we cannot kill a bird more than once. An event of correct remembering is thought generally to be a *repeat* performance in the above sense. But the property 'veracity', as we have already seen, is not transmissible from the first act to the second. The second act may copy or repeat the first as far as the grasping of the same fact is concerned, but it cannot copy the other property, viz., that of grasping a hitherto ungrasped fact. For, then it would not be a copy or repeat performance, and hence, not an act of what we call 'remembering'.

Take the case of an original painting by one of the masters. There may be bad copies or even a set of 'perfect' copies of the painting. But the 'perfect' copy can copy everything of the original but not its originality, for, then it could not be a copy by definition. Remembering in this way can never have the 'novelty' that is expected of an act of knowing. There is something more to this point. Suppose, in our example, a doubt arises whether the first painting, which has been copied by several persons (and there are good or perfect copies and bad ones) is fake or not i.e., whether it is by one of the masters or not. Now, nothing will be gained by looking at the set of copies, to investigate whether it is a true replica or not. To resolve the doubt one way or other, one has to investigate the first painting. Thus, by making sure that a memory-experience is a correct and "full" revival of a previous cognitive event, we do not gain any insight into the problem of deciding whether the original event was a knowing event or not. The problem of an exact remembrance, like the problem of an exact reproduction, is quite separate from the problem of ensuring the first act to be an act of knowing. This analysis, therefore, shows that there is a good reason, not just a terminological dispute, for resisting the inclination to call a memory-experience a knowing event.

What I have argued here can be well supported by quoting a passage from Udayana's *Nyāya-vārttika-tātparya-pariśuddhi*[1]. This passage was Udayana's comment on Vācaspati's rather enigmatic statement in reply to the question why memory-experience is not regarded as a *pramā*. (*Tātparyaṭikā*)[2]

[1]Udayana, p. 110
[2]Vācaspati, p. 35

The relation between word and object is determined by people's convention (*loka*). And people call such cognitive event *pramā* as is non-promiscuous with the object or fact (*artha*) and different from such memory-experience as is produced only from mnemonic impression (*saṃskāra*).

This might have given the impression that it is a matter of arbitrary choice of the language-users that memory is not to be called a *pramā*. But Udayana sets the matter straight as far, at least, as the Nyāya view is concerned. A *pramā* is a cognitive awareness that is in accord with the object or fact, but memory can hardly be said to have such an accord, and hence, it is not a *pramā*. I quote:

Moreover, how can memory-experience be in accord with the object/facts? For, it is not true that when an object is remembered in a particular way, it is in that same state at that time. For, the previous state has now ceased. If it did not, it would not be called 'previous'. It is also not true that memory hangs on to that object as one whose previous state has ceased. For, we do not have the awareness of the cessation of the previous state. If we do not have (prior) awareness of something, we cannot have a memory of it. If we did 'remember' such a thing, it would not be a memory. Besides, we need to search for another unique (causal) condition [for memory, viz., first impression = *saṃskāra*]. But we are not aware of it (i.e., such a condition), for, there is no past impression of it.

[Opponent :] How is it that although both a (prior) cognitive awareness and a memory-experience have the same object (revealed in both alike), we say that the prior cognitive awareness may be in accord with the object but not the (later) remembering of it?

[Answer :] At the time of (prior) awareness, the object was in that state in which it was, but at the time of (later) remembering of it, it was not in the same state.

[Opponent :] Our later cognition (i.e., remembering) may be said to be in accord with the object if it cognizes that the object *was* in that state before as it was.

[Answer :] No. Then our (present) awareness of dark-colour belonging to an earthen pot that [was dark before but now] is red due to its being baked (with fire), would be said, by this

argument, to be in accord with the object.[1]

[Opponent :] A cognition that dark-colour has ceased is certainly in accord with the object.

[Answer :] This is true. For, that object is in that state at that time. But the remembered object is not in the same state at that time. Therefore, memory-experience is certainly not in accord with the object. But a cognitive (non-mnemonic) experience may be in accord with the object.[2] If, however, a cognition is in accord with the object and we have a memory-experience of the same object, then such memory-experience is said to be in accord with the object. Similarly, if the (prior) cognition is not in accord with the object, the exact (undistorted) remembering of it is also not so. For example, when a man has fled after cognizing a rope as a snake, he remembers it as a snake. Therefore, the memory-experience has 'veracity' (the property of being in accord with the object) only to the extent of its being *borrowed* from a prior veracious cognitive experience; it is not natural (= *ājānika*) to memory. This (unnaturalness of veracity with regard to memory) is what is expressed as (memory's) 'dependence upon another', and this has been confused by some philosophers who were lazy to make the point explicit. (I think this is an oblique reference to Vācaspati by Udayana.)

Udayana, in fact, has given two arguments in the above. First, he has argued that memory-experience cannot be said to be in accord with the object in the strictest sense in the way an ordinary (non-mnemonic) cognitive awareness can be. Next, he has shown, in recognition of the point that we may use such expressions as 'true memory', that the memory-experience can have accord with the object in a less strict sense, but such a property is only a transferred epithet from the original non-mnemonic past awareness in which the present memory is grounded.

What then is the sense in which the Jaina philosophers have argued that memory-experience is to be called a *pramā*, a true cognitive event ? Does it simply mean that the Jaina philosophers use the term "*pramā*" in a less strict sense ? It is tempting to say so, but I would suggest another way to understand the

[1]Read "yathārthā" for "yathārtā."
[2]Read "yathārthānubhava" for "yathānubhava."

problem. If I had seen the pot to be dark when it was unbaked and now, when it is red after being baked, I truly remember that it was dark, the claim of the Jainas is that it is a 'true' memory, and hence, a *pramā*. But Udayana has argued that this claim hides a confusion. For, if 'true memory' means, as it should, an exact reproduction or full revival of the past experience, then the verbal report expressed as "it *was* dark" cannot be a report of what we call a memory-experience. For, the portion of the experience expressed by "was", i.e., the pastness of the fact, cannot be any part of the past experience (the verbal report of the past experience was "it *is* dark"). And if it cannot be a part of the past experience, it cannot be a part of the present memory. Therefore, the verbal report "it was dark" is not that of memory, but a present experience aided by memory. I think the dispute here lies mainly in deciding what experience we should call memory, my remembering a past fact (that the pot was blue) or a present experience that the pot was blue based upon such remembering? We can also ask : whether these two are at all distinguishable experiences in the sense of being two cognitive events ? I shall avoid giving an answer to this question, but instead, I shall point out that the ordinary use of 'remember' is ambiguous enough to cover both.

There is a further point which takes us into the heart of this dispute. The problem of determining the truth of a non-mnemonic cognitive experience is quite different from the problem of determining the truth of a memory. Truth may be seen as a property of a cognitive experience, a property that is generated by factor or factors that are either concomitant with (if we accept *parataḥ*), or included in (if we accept *svataḥ*) the set of factors that generates the experience in question. But the correctness or accuracy or "truth" of a memory is generated, not by a similar set of factors, but by different ones, such as, the intensity of the previous experience, so that passage of time would not render it vague and inaccurate. If, however, it is argued that a memory in exactly copying a past true experience can also copy its truth, then we have to say that it is only a *copy* of the property truth or *pramātva*, and not *the* property truth itself.

CHAPTER FOUR

ONTOLOGICAL PROBLEMS

§ 4.1 : THREE RIVAL ONTOLOGIES : NYĀYA, BUDDHISM AND JAINISM

The term 'ontology' came to be used to indicate the most general part of metaphysics in the seventeenth-century Europe, although for the origin of ontology as a general theory of real entities, or as a theory of being *as* being, one has to go back to Aristotle as well as the pre-Socratic philosophers of ancient Greece. Aristotle did not use the term 'ontology' just as he did not use the term 'logic' either. But the history of logic as well as ontology in the Western tradition seems to start with him. Aristotle talks about a 'first philosophy', which, he says, is about being as being, and this is taken in later Western tradition to be the nearest analogue of 'ontology'. For our present discussion, I shall assume ontology to mean a general theory of 'what there is' and try to apply it to the Indian tradition. There are many other problems usually discussed in connection with ontology in the West, such as, the doctrine of distinction of essence and existence, the theory of transcendental properties of all entities, but these questions will not directly concern us.

The Nyāya-Vaiśeṣika ontological problem was connected with the Vaiśeṣika doctrine of categories (*padārtha*), and the category of substance was the focal point of this doctrine. The system of Vaiśeṣika categories is generally regarded as a classification of real and fundamental entities. It is also possible to view it as an analysis of the 'concrete' objects of our experience into their various parts in order to form a theoretical basis for our philoso-

phical discussion. The Nyāya-Vaiśeṣika philosophers, however, believe that if we can analyse and classify the concrete object of our experience in this manner into substance, quality and action, we would achieve a satisfactory explanation of 'what there is', i.e., an explanation of what is meant when we say, 'that object exists'.

The Buddhists, on the other hand, think that the so-called concrete object of our experience is at best a synthetic object, and hence, is analysable into a number of fundamental properties or elements called *dharmas*. The Buddhist conception of a *dharma* is that it is by nature a non-substance (cf. *anātman*).[1] The question, 'What is there?' can be answered, according to the Buddhists, if we can prepare a satisfactory list of such non-substances or *dharmas*, which we can refer to, while we are accounting for and analysing the objects of our experience. The *dharmas* are also in perpetual flux, 'in a beginningless state of commotion', and *nirvāṇa* is posited as the ultimate cessation of this 'commotion' for a person. Nirvāṇa is also said to be the ultimate reality, the ultimate nature of things, to be contrasted with the phenomenal existence of *dharmas*, but, as I have already indicated, this problem will not be our concern in this context.

Our pre-philosophical commonsense tells that there are around us things which somehow undergo change. Our philosophical worries start along with our recognition of the phenomenon of change *vis-a-vis* our feeling for continuity and sameness underlying change. In India this problem was reflected in the old dispute over *Sat*-cosmogony versus *Asat*-cosmogony (found in the Ṛgveda as well as in the Upanishads). The philosophic resolution of this dispute is to be found in the two rival theories about causation and creation in ancient India: 1. *sat-kārya-vāda* 'the theory of pre-existence of the effect in the cause' and 2. *asat-kārya-vāda* 'the theory of new creation of the effect which was non-existent before'. For those who prefer a comparative approach, it is significant to note that the so-called paradox of change and permanence, of being and becoming, was as much a live issue for the early Indian philosophers as it was for the Greeks, i.e., the pre-Socratics. Those who were inclined toward permanence not only posited the notion of an enduring substance

[1]Stcherbatsky, *The Central Conception of Buddhism*, pp. 24-5.

but also argued that change was only superficial transformation of the existent (the substantial) from one state to another. The Sāṃkhya and the early Vedānta belonged to this group insofar as they gave prominence to *Sat* 'the existent'. The Vaiśeṣikas belonged to the group of *Asat* cosmologist inasmuch as they admitted change to be real and the function of the cause to be the creation of new things, effects. But they also posited the doctrine of substance, in fact, plurality of substance, and their substantial elements were said to be persistent through changing states. The Buddhist *Asat* cosmologists were very radical, for, they argued that change alone was real and the notion of continuity or persistence was illusory, and the notion of soul-substance was a myth. The Jaina theory, as we shall see later on, was a compromise between the Buddhists and the Nyāya-Vaiśeṣika.

The ontological positions of Nyāya-Vaiśeṣika, the Buddhists and the Jainas were necessarily influenced by their respective stands on the problem of change and continuity. The Buddhists, for example, were pre-eminently anti-substantialists in the Indian tradition. This anti-substantialism culminates in their 'flux' doctrine, according to which the components of every object, all *dharmas*, change completely from moment to moment. A comparativist might be reminded here of the anti-substantialism of Heraclitus of Ephesus, who held, contrary to Parmenides' denial of change, that change was incessantly occurring. But it is not certain that the Heraclitean acceptance of change as reality amounted to the 'flux' doctrine, as it was understood by both Plato[1] and Aristotle.[2] The 'flux' doctrine may be due to an interpretation of the Heraclitean position by the philosopher Cratylus. This would at least give credence to the anecdote related by Aristotle about the 'river' example of Heraclitus. Aristotle says that Cratylus "rebuked Heraclitus for saying that you could not step twice into the same river; he (Cratylus) thought you could not even do so once."[3] Thus, probably Cratylus was much closer to the Buddhists in this regard.

[1]*Cratylus* 402a : "Socrates : Heraclitus is supposed to say that all things are in motion and nothing at rest; he compares them to the stream of a river, and says that you cannot go into the same river twice."

[2]*Metaphysics* 1010a : "It was this belief that blossomed into the most extreme of the views above mentioned, that of the professed Heracliteans, such as was held by Cratylus..."

[3]Ibid., 1010a, 1. 13-14.

The Nyāya-Vaiśeṣikas, on the other hand, were substantialists while they also accepted change much in the same manner as Aristotle. We need not proceed in this comparative vein any further. It is important to understand now the Nyāya-Vaiśeṣika doctrine of existence as well as their notion of substance. Vaiśeṣika-sutra 8.14 asserts that what exists can be analysed into three categories, substance, quality and action.[1] Existence in this system is regarded as a generic property common to the members of the three classes, substance, quality and action. Each of these classes has a class-property or generic property, viz., substance-ness, quality-ness and action-ness; but these generic properties are to be distinguished from 'existence' as a generic property.[2] Candramati, in fact, regarded existence as a separate category (*padārtha*) altogether while class-properties like substance-ness were included under the category of 'generality' (cf. *sāmānya* or *sāmānya-viśeṣa*). Praśastapāda interpreted 'existence' as the highest generic property and thus brought both existence, on the one hand, and other class-properties like substance-ness and quality-ness, on the other hand, under one category (*padārtha*) called generality.[3] But still a special place was accorded to existence as the all-inclusive generic property which should be distinct from the included (*vyāpya*) generic properties, such as, substance-ness and quality-ness. A particular substance is characterized by the *being* of substance or substance-ness much as it is also characterized by many qualities and probably by some actions. But it is also characterized by 'existence' (inasmuch as it exists) which is not to be identified with its substance-ness or with any of its quality.

The best way to explain the notion of existence in this system is to contrast it with the notion of 'real' as well as with that of the non-existent. Existence and the other included generic properties are themselves REAL but not EXISTENT. For, otherwise, we shall have to indulge in talking about the existence of existence and so on *ad infinitumi*. Similarly, the important relation called *samavāya* that combines the generic property existence with the particular existents, such as, a substance or a quality or

[1] *Vaiśeṣikā-sūtra* 8.14 : "*artha iti dravya-guṇa-karmasu*".

[2] Consult *Vaiśeṣika-sūtras* 1.2.7-1.2.18.

[3] Thus it is that Praśastapāda explains *sāmānya* as being of two types : *para* and *apara*. *Parasāmānya* is existence. Substance-ness etc., are *aparasāmānya*. See Praśastapāda, p. 15. For contrast, see Candramati, pp. 99-101.

an action, is also regarded as REAL but not EXISTENT.[1] Thus, the generic properties and their inseparable relation with the particulars are posited as real, as means of explicating the notion of existence. Hence, they themselves should not be construed as 'existents', to avoid the problem of self-dependence and regress but, nevertheless, these notions, existence, generalities and *samavāya*, are claimed in this system to be real in the sense of their being independent of our thought or mind, and thus being distinct from a non-entity. A non-entity is NON-EXISTENT, and hence unreal, for example, the sky flower, the son of a barren woman, the rabbit's horn and the unicorn (§ 2.1, § 2.2.)

Briefly stated, the 'Existents' in this system (early Vaiśeṣika) are equivalent to the particulars, such as, a chair, a particular colour, a particular action. The class of existents is a sub-class of the class of reals (see also my book on *Perception*, 1986, Chap. 12). Universals (including relations) are thus not EXISTENTS but REALS. Praśastapāda used two significant notions in order to separate the class of existents from that of universals: *sattā-sambandha* and *svātmasattva*. The first notion characterizes each existent, for, it means that EXISTENCE resides in the particular entity by *samavāya* relation. The second notion became a bit puzzling for the later commentators. Udayana explains it as 'lacking existence' (*sattā-viraha*). Śrīdhara gives almost the same interpretation, but also points out that 'existence' could be ascribed to the universals only by mistake. Vyomaśiva says that while the first notion means that EXISTENCE is correctly applied to the class of particulars the second notion means that EXISTENCE is only metaphorically applied to the class of universals.[2]

The riddle of existence and non-existence is further complicated in the later Nyāya-Vaiśeṣika by the acceptance of negative properties as real. Our negative statements, according to the later Nyāya-Vaiśeṣika, are expressions of something, some negative facts. The affirmative-negative dichotomy among judgments is interpreted differently in this system. (§ 2.2, § 2.3) Thus, just as a positive judgment attributes positive property to a thing, so also a negative judgment attributes another property, a

[1] I am using the term REAL for the Vaiśeṣika term *padārtha*, EXISTENCE for the Vaiśeṣika term *sattā*.

[2] Praśastapāda, pp. 20-21; see also Udayana, p. 21; Śrīdhara, pp. 49-50; Vyomaśiva, pp. 118.

negative one, to the thing denoted by the subject-term. Just as a positive property predicated by a judgment can be construed as a real property, so also a negative property, absence of some positive property, predicated by a judgment can be construed as a real property. Thus, 'the room is dark' can be interpreted as expressing the room that is characterized by the property of absence of light. Now, this property, absence of light, and the like, are regarded by the Nyāya-Vaiśeṣika as REAL, inasmuch as they are to be distinguished from the unreal, such as, the round square, and unicornhood. But again, care should be taken to note that the absence of light is not, however, EXISTENT in this system in the sense a substance or a quality or an action is existent. It may also be noted that although the negation of an entity is construed in this system as expressing absence of that entity, a so-called negative property, no non-entity like the sky flower or the unicorn can be negated (in other words, absence of such non-entities will not be an acceptable negative property in this system).[1]

Leaving aside the riddle of existence and non-existence, let us concentrate on the Nyāya-Vaiśeṣika doctrine of substance and quality, which was at the focal point of their ontology. Several notions of substance have been emphasized in the Vaiśeṣika at some time or the other: 1. substance as the locus of qualities and actions,[2] 2. substance as the substratum of change,[3] and 3. substance as capable of independent existence.[4] It is difficult to say whether the concept of substance as the logical subject was at all implied in early Nyāya-Vaiśeṣika doctrine, for, it was never thoroughly worked out. Later Nyāya and Buddhist logicians (notably Dignāga) developed the concept of *dharmin* 'property-possessor' which was the nearest Indian analogue for a 'logical subject'. This concept was regarded as neutral to the ontological beliefs of the logicians. The concept of substance as the unchanging 'essence' was

[1]See § 2. 1, § 2.2 above.

[2]Vaiśeṣika-sūtra, 1.1.7 : "*kriyā-vad guṇa-vat samavāyi-kāraṇam iti dravya-lakṣaṇam.*"

[3]Vaiśeṣika-sūtra, 1.1.17 : "*dravya-guṇa-karmaṇāṃ dravyaṃ kāraṇaṃ sāmānyam.*"

[4]This is implied by the Navya-nyāya doctrine that a substance can exist by itself at the moment it is produced, without being joined by qualities and action (cf. *utpattikṣaṇāvacchinno ghaṭo nirguṇo niṣkriyaś ca*).

prevalent in the Sāṃkhya school as well as in the early Vedānta (cf. the spiritual substance), but this concept was not treated seriously in the Vaiśeṣika school. It is also to be noted that the Mādhyamika Buddhists were uncompromising critics of the doctrine of *sva-bhāva* 'own-nature' which was analogous to the notion of essence or inner immutable core of things.

The doctrine of substance as the substratum of change needs further elaboration in the present context, for this will throw much light on the Vaiśeṣika theory of causation and change. For any effect, the Nyāya-Vaiśeṣika will identify a particular substratum cause (*samavāyi-kāraṇa*) in which that particular effect is supposed to inhere. If the physical conjunction of two material bodies are taken to be the effect in question, its substratum cause will be the two bodies themselves. If the taste of a fruit is regarded as the effect, its substratum cause will be the fruit-stuff itself. But when the effect is nothing but a concrete individual like a pot, its substratum cause will be the pot-parts, or in final analysis, the atomic constituents of the pot material. Thus, the substratum cause of an effect need not be an ever-unchanging substratum. We do not have to posit an unchanging substantial core as the locus of change. What is needed is only the temporal stability, persistence through a period of time, of the substance which acts as the locus of the effect.

The substances are, according to the Nyāya-Vaiśeṣika, either impermanent (having origin, stability and decay) or permanent (without origin or decay).[1] Material bodies of intermediate size (called *avayavin* 'whole' in this system) like a pot or a table are of the first type. They have temporal stability and can be the loci of qualitative change. These substances are breakable into parts and those parts into further parts. But the atomic constituents of these substances along with other non-material substances, such as, soul, sky, time and space are of the second type, i.e., permanent. An important part of this doctrine of substance is the ontology of the 'whole' (*avayavin*) as distinct from the assemblage of parts. A material body, e.g., a piece of chalk, is a whole which is a distinctly existent entity to be distinguished from the integration of its parts or combination of its atomic constituents. It is a new entity that is created as

[1]See Praśastapāda, p. 22. Udayana comments: "*anitya-dravyatvaṃ cānyatra nir-avayavadravyebhya iti.*"

soon as the parts or atoms are put together. Moreover, draw a line on the board with this piece of chalk and you have created a new piece, for, some parts of the old one are lost. The seeming identity of the new one with the old piece works for all our practical purposes, but ontologically the two are distinguishable.

The Buddhist anti-substantialism finds its extreme expression in the Sautrāntika doctrine of momentariness. According to this doctrine, a seemingly stable object like a chair is dissolved into a cluster of continuously fluctuating chair-moments or chair-stages. The real entity is a point-instant, an exclusive particular, an essentially unqualifiable, ineffable 'here-now' subject. Everything else in this system is only a conceptual construction—an interplay of the commonly shared imagination. In what sense does a moment exist ? A moment exists insofar as it functions in some way or other. Thus, Dharmakīrti has argued that *to be* is to be capable of functioning in some way or the other.[1] If a thing does not have causal efficacy, it does not exist. Starting from this initial position, Dharmakīrti and his followers have formulated a proof of their 'flux' doctrine. It will be interesting to note the crucial steps taken by the Buddhists in proving the 'flux' doctrine:[2]

1. To be is to do something, i.e., to function or to have causal potency.
2. To have causal potency means to be actually doing what is supposed to be done.
3. If something has causal potency at a particular moment it must do its work at that moment. (This is a rephrasing of 2.)
4. If something does not do a work at a given moment, it must be causally *impotent* to do that work. (This is a contraposition of 3.)
5. The same thing cannot be both causally potent at one moment and impotent at another (next) moment, for potency and impotency are contradictory properties, mutually incompatible.

[1]*Pramāṇavārttika*, Ch. 2, v. 3 : "*arthakriyāsamarthaṃ yat tad atra paramārthasat*, p. 100.

[2]For the most elaborate presentation of the 'flux' doctrine, see Jñānaśrīmitra, pp. 1-159.

6. Therefore, the thing at the moment of its potency must be held to be ontologically different from the thing at the moment of its impotency. A difference in qualities implies difference in the thing itself!
7. Everything, in this manner, can be shown to be in perpetual flux. We cannot step twice into the same river !

The most crucial step is taken by the Buddhist here when he identifies causal potency with actuality or actual doing. In other words, the notion of potentiality is completely rejected. If a thing exists and it is capable, it must function without lying in wait for anything to come and help. If we posit two different functionings at two different moments, we have to construe them as belonging to two different things or objects. In each moment a new object (*bhāva*) emerges when a new functioning sets in and the old functioning perishes. Thus, what exists is the ever-fluctuating here-and-now. Even the ontology of stages or moments is not quite satisfactory to the Buddhists. For, moments or stages are also hypothetical abstractions in the face of continuum. Thus, we have to say that there is only process, only flux, without something being there to fluctuate. There is only transmigration without there being any transmigrating soul (cf. the 'non-soul' doctrine).

Udayana, setting forth a defence for the Nyāya-Vaiśeṣika doctrine of substance, has criticized the above argument of the Buddhist by pointing out that it is essentially dependent upon the total rejection of the notion of potentiality. Why, asks Udayana, is it to be assumed that the causally potent cannot (and should not) 'wait' for its accessories. Causality operates with two mutually compatible notions: *svarūpayogyatā* 'potentiality' and *phalopadhāyakatā* 'actuality'; the former relates to the general while the latter relates to the particular. If the Buddhist equates potentiality with actuality then, Udayana argues, part of the Buddhist argument is reduced to tautology, for, he would have to say that *x* is actually functioning, because it actually functions. And tautology is not a good philosophic argument. In fact, potentiality is explained by Udayana not as an essential constituent of the thing, but as the *mere presence of the thing coupled with the absence of some accessory or the other and the consequent*

absence (or non-arising) of the effect.[1] Thus, Udayana argues, if x does not cause y when and only when z is absent then it follows that when z is present x produces y. This is only another way of saying that z is an accessory to x in bringing about y. Besides, the properties of causing y and not causing y are not two mutually incompatible characters like cow-ness and horse-ness. A cow, of course, can never be a horse. But a thing, if it is not just a flux, can cause y at time t_1 and may not cause y at time t_2[2]. In fact, what Udayana says is reminiscent of Aristotle's rejection of potentiality:[3]

> There are some who say, the Megaric school does, that a thing 'can' act only when it is acting, and when it is not acting it 'cannot' act, e.g., that he who is not building cannot build, but only he who is building, when he is building; and so in all other cases. It is not hard to see the absurdities that attend this view.

It is rather significant that the arguments and counter-arguments of Dharmakīrti and Udayana were presupposed much earlier in the Megaric school as well as in Aristotle.

Dharmakīrti's argument to prove his 'flux' doctrine was not entirely an innovation in the Buddhist tradition. He must have derived his idea from Nāgārjuna's dialectic. Nāgārjuna, for example, has argued that if something exists it should exist always, and if it does not exist at one time it cannot exist at any time.[4] This is how Nāgārjuna has criticized the concept of existence and 'own-nature'. Dharmakīrti first assumes that *to be* means to have causal potency. Then he argues: if something has causal potency it must be functioning all the time, and if something does not have the causal potency at one time it would never have it at any other time. But Nāgārjuna's philosophic conclusion is rather different from that of Dharmakīrti. With the above argument Nāgārjuna wishes to avoid the extremes of eternalism and annihilationism and follow the Middle Way. Dharmakīrti, on the other hand, intends to conclude that since

[1]See the first chapter of *Ātmatattvaviveka*, specially pp. 16-25: "*yad yad-abhāva eva yan na karoti tat tat-sadbhāve tat karoty eveti.*"
[2]Ibid., p. 24.
[3]*Metaphysics*, 1046b, 28-32.
[4]*Mādhyamika-śāstra*, Ch. 7, verses 30-31.

functioning is instantaneous, existence is also instantaneous. And when we think of Udayana's counter-argument, we are again reminded of Aristotle.[1]

> Again, if that which is deprived of potency is incapable, that which is not happening will be incapable of happening; but he who says of that which is incapable of happening either that it is or that it will be will say what is untrue;....But we cannot say this, so that evidently potency and actuality are different (but these views make potency and actuality the same, and so it is no small thing they are seeking to annihilate)....

The Jaina ontological position is influenced by both the Buddhists on the one hand, and the Nyāya-Vaiśeṣika on the other. The Jainas were also substantialist, but in a very qualified sense of the term. Their conception of existence (*sat*) is intimately related to their doctrine of substance. The *Tattvārthasūtra* 5.29 asserts: "What there is, has the nature of substance."[2] And the next sūtra (5.30 in the Digambara tradition) adds: "What there is (the existent), is endowed with the triple character, origin, decay and stability (persistence)."[3] The *Tattvārthabhāṣya* explains that whatever originates, perishes and continues to be is called the existent; anything different is called the non-existent.[4] The next sūtra asserts that the existent is constant, for, it never gives up its being (essence?).

In sūtra 5.37, the substance is again characterized as the possessor of qualities (*guṇa*) and modes (*paryāya*). Here the broad category 'attribute' is apparently broken into two sub-categories, qualities and modes. The distinction between qualities and modes is not found in the sūtra. Umāsvāti points out that qualities are permanent attributes of the substance while the modes are only temporary attributes which are subject to origin and decay.[5]

In the above analysis of the *Tattvārthasūtra*, two compatible notions of substance are emphasized: 1. substance as the core of change or flux and 2. substance as the substratum of attri-

[1] *Metaphysics*, 1047a, 10-20.
[2] "*Sat dravya-lakṣaṇam*", Tattvārthasūtra 5.29.
[3] "*Utpādavyayadhrauvyayuktaṃ sat*", ibid., 5.30
[4] See Umāsvāti, under sūtra 5.29
[5] Ibid., under sūtra 5.40.

butes. Kundakunda combines these two notions as he defines substance in his *Pravacanasāra*:[1]

> They call it a substance, which is characterized by origin, persistence and decay, without changing its 'own-nature', and which is endowed with qualities and accompanied by modifications. For, the 'own-nature' of the substance is its existence (*sad-bhāva*) which is always accompanied by qualities and variegated modes, and at the same time, by origin, decay and continuity.

The Vaiśeṣika school, as we have already seen, emphasized both these aspects of substance, but did not equate the 'own-nature' of the substance with EXISTENCE. Aristotle, who, in fact, suggested several notions of substance either implicitly, or explicitly, remarked in *Categories*.[2]

> The most distinctive mark of substance appears to be that, while remaining numerically one and the same, it is capable of admitting contrary qualities.

In *Metaphysics*, Aristotle also implied that the substance is what is independently existent, for, existence, in the proper sense of the term, applies to substances only, and qualities and relation have a secondary existence, a parasitic mode of being.[3]

> Therefore, that which *is* primarily, i.e., not in a qualified sense but without qualification, must be substance.

The Jainas too identify the notion of 'it is' or 'it exists' with that of substance, and they then explain that 'it is' means that it is endowed with the triple character of origin, decay and stability.

In fact, the Jainas explicated the notion of substance in such a way as to avoid falling between the two stools of being and becoming. It was a grand compromise of flux and permanence. The Jainas inherited from Mahāvīra and his later followers the well-known doctrine of 'many-natured' reality (cf. *anekānta-vāda*), and thus a 'compromise' position was only an important trait of their creed. The substance, in their analysis, is being, it is also becoming. Kundakunda observes that a substance has both natures: from the standpoint of one's 'own-nature' it is being (*sat*,

[1]Kundakunda, *Pravacanasāra*, Ch. 2, verses 3 and 4.
[2]*Categories* 4a, 10-14.
[3]*Metaphysics* 1028a, 29-30.

unchanging), and from another standpoint it has triple character, origin, decay and continuity, i.e., fluctuations.[1] Siddhasena Divākara repeated the point more forcefully:[2]

> There is no substance that is devoid of modification, nor is there any modification without an abiding something, a substance. For, origin, decay and continuance are the three constituents of a substance.

It should be noted that the notion of continuity involved in the triple character of the substance is not identical with the notion of permanence of the substance. The former notion means persistence or continuance (cf. *pravāhanityatā*). The later notion means immutability. It is the notion in the background of which the triple character of origination, destruction and continuity becomes understandable. The notion of continuity, on the other hand, is essentially dependent upon origin and decay. Thus, Kundakunda observes:[3]

> There is no origin without destruction, nor is there any destruction without origin, and neither destruction nor origination are possible without what continues to be.

The Jainas were well aware of the Mādhyamika critique of the 'own-nature' concept as well as the problem involved in the doctrine of the permanent substance. It is true that the immutability of own-nature invites a host of problems. But the notion of flux, the Jainas points out, is not sacrosanct. Thus, just as the Buddhists argue that there is only fluctuation, there being no permanent being, the Jainas take the bull by the horns and answer that if there is no permanence there cannot be any change or fluctuation, for, it is only the permanent that can change. It is only the persisting soul that can transmigrate !

When the *Tattvārthasūtras* defines substance as the substratum of qualities and modes, it was probably influenced by the Vaiśeṣika school. Thus, Siddhasena points out that the rigid Vaiśeṣika concepts of substance and quality were not compatible with the Jaina ontological principle of *anekāntatā* 'many-naturedness' or 'non-onesidedness'. In fact, it would be as good as a heresy

[1]Kundakunda, *Pravacanasāra*, Ch. 2, verse 7.
[2]Siddhasena, *Sanmati*, Ch. 1, verse 12.
[3]Kundakunda, *Pravacanasāra*, Ch. 2, verse 8.

in Jainism if one intends to maintain a rigid distinction between substance and quality. The notion of triple character, origin, decay and continuity, embodying the principle of (conditioned) reality, was derived from the Buddhist source. The Buddha, for example, predicated this triple character of all the conditioned (*saṃskṛta*) entities. Thus, in the *Aṅguttara* I, the Buddha said :[1]

> Of the conditioned entities, monks, the origin is conceived, even so their decay and their stability (persistence).

Nāgārjuna, however, directed his dialectical attack against the notion of the conditioned (*saṃskṛta*), and concluded :

> Since the notion of origin, persistence and decay cannot be established, the conditioned does not exist. And if the conditioned is not established, how will the unconditioned be established ?

But why then did the Buddha speak about the triple character of the conditioned entities ? Nāgārjuna replied:[2]

> Just as magic, dream and the cloud-castle are unreal (but, nevertheless, are spoken about) so also origin, stability and decay have been described.

The Jainas postulate the triple character in the case of each event, each happening or change of state. Each fluctuation embodies origin, continuity and decay. Samantabhadra illustrates the point as follows : if a golden pot is destroyed and a golden crown is made out of it, destruction, origination and continuity—all three—happen simultaneously and give rise to sorrow, joy and indifferent attitude in the minds of three different kinds of people, those in favour of the pot, those in favour of the crown, and those in favour of the gold stuff.[3]

Siddhasena has shown great philosophic insight in expounding the Jaina ontological problem. According to him, reality can be viewed from two important standpoints, being and becoming, permanence and change. That is why Lord Mahāvīra acknowledged only two *nayas* or standpoints : 'substance exists' and

[1]Quoted by Candrakīrti, see Nāgārjuna, *Mādhyamika-śāstra*, p. 73.
[2]*Mādhyamika-śāstra*, Ch. 7, verse 34.
[3]Samantabhadra, *Āptamīmāṃsā*, Ch. 3, verse 57.

'modification exists'. If x is an element of reality, then, according to Siddhasena, x can be viewed as a SUBSTANCE from the standpoint of being, and as a PROPERTY from the standpoint of becoming. The standpoint of 'becoming' (modification) reveals that everything originates, stays and perishes; the standpoint of 'being' ('it is') reveals everything as existent, eternally without birth or decay. And, Siddhasena asserts, there cannot be being without becoming, or becoming without being; therefore, a substance (= reality) is defined as the combination of being (the existent) with becoming (origin, stability and decay)[1]

The 'being' aspect is, according to Siddhasena, the result of generalization while the 'becoming' aspect is that of particularization. In our ordinary description of things, we necessarily combine the general with the particular. From the point of view of the highest generalization, a thing is described as 'it is' which reveals the permanent being, the substance. But when, in ordinary descriptions, a thing is called a piece of wood, or a chair, or a red chair, we have an intermixture of 'being' and 'becoming' aspects. Insofar as the thing is identified as a non-fluctuating substance, it is the 'being' standpoint. And insofar as the attributes of the thing, such as, being a piece of wood, being a chair, or redness, are revealed by the description, it is the 'becoming' standpoint. Qualities are nothing but modes or states of the substance. In any characterization or description of the thing there is thus an overlap of 'being' and 'becoming' standpoints, until we reach the ultimate particularity, pure BECOMING, i.e., the point-instants (*kṣaṇas*) of the Buddhists.[2]

Thus, the Jaina conception of reality, in bringing together the opposing viewpoints of the Buddhists and the Nyāya-Vaiśeṣika, comes very close to that of Whitehead, according to whom the chief aim of philosophy is the "elucidation of our integral experience" of both the flux and permanence of things. Whitehead has said that philosophers who have started with 'being' have given us the metaphysics of 'substance' and those who have started with 'becoming' have developed the metaphysics of flux. But Whitehead points out the inseparability of the two:[3]

[1]Siddhasena, *Sanmati*, Ch. 1, verses 11 and 12.
[2]Ibid., Ch. 1 verse 9.
[3]A.N. Whitehead, *Process and Reality*, pp. 240-2.

> But, in truth, the two lines cannot be torn apart in this way; and we find that a wavering balance between the two is a characteristic of the greater number of philosophers. Plato found his permanences in a static, spiritual heaven, and his flux in the entanglement of his forms amid the fluent imperfections of the physical world....Aristotle corrected his Platonism into a somewhat different balance. He was the apostle of 'substance and attribute', and of the classificatory logic which this notion suggests.

In the Indian context, one may observe that the Buddha's search for *nirvāṇa*, the unconditioned state, freedom from suffering or *duḥkha*, spelt out a philosophy for the later Buddhists, according to which the flux of things, impermanences, "the fluent imperfections of the physical world" are identical with suffering (*duḥkha*, cf. whatever is impermanent, is suffering). And NIRVĀṆA, the unconditioned state, is actualized with the cessation of this *duḥkha*. The Vaiśeṣikas, on the other hand, were, much like Aristotle, the apostles of substance-and-attribute duality.

§ 4.2 : CAUSALITY

Causality implies a host of philosophic problems which are pertinent to different branches of philosophical studies. My aim here is, however, a modest one. While explaining the notion of cause as it was understood by the different philosophical schools of classical India, I shall try to show that (a) concern for the notion of causation was taken more seriously in some Indian philosophical schools than it had been in some of their Wertern counterparts, and (b) that the meaning of 'cause' (*kāraṇa*) is much wider in Indian philosophy than it is in the West.

To substantiate the second point first, I shall first very briefly refer to the classification of 'causal conditions' as found in the *Abhidharmakośa* of Vasubandhu and then to another classification found in the Vaiśeṣika school. Two different terms, *hetu* and *pratyaya*, are used to cover all causal notions in the Abhidharma system. There is, however, no essential difference between these two concepts, the six types of *hetu* being included under the broader notion of *pratyaya*.

The *Abhidharmakośa* first explains six types of *hetu*, of which

the first is called the *kāraṇa-hetu*, the 'prototype' of a *hetu*. The definition of a *kāraṇa-hetu* reflects the attitude of the Abhidharma school toward the general notion of a cause. In fact, to be a cause in this sense means to exist without being a 'hindrance' (*vighna*) to the production of the effect in question. Thus, if *x* is a *dharma* that originates, then any *dharma* other than the 'own-being' (*svabhāva*) of *x* may be called its *kāraṇa-hetu*.[1]

Four types of *pratyaya* are : (1) *hetu-pratyaya*, (2) *ālambana-pratyaya*, (3) *samanantara-pratyaya*, and (4) *adhipati-pratyaya*. Of these, the first includes the 'remaining' five *hetus* in the foregoing classification while the last includes the 'prototype', that is, the *kāraṇa-hetu*.[2] The second and the third are found useful only with regard to the states of consciousness. The *ālambana* is the 'causal basis', that is, the object, of a particular state of consciousness which is regarded as an effect or event (See § 3.2). The *samanantara* is the 'causal precedent', that is, the preceding moment of consciousness conditioning the succeeding moment. It should also be mentioned that in the remaining five *hetus* (a discussion of which I skip here) of the six types mentioned earlier are included *hetus* like a *sahabhū hetu*, where two *dharmas* originating simultaneously are said to condition each other mutually.

This breathtaking classification of the *Abhidharma* will be enough to show that *hetu* or 'cause' is being used here in its widest possible sense. It is sometimes pointed out that we should not probably translate *hetu* or *kāraṇa* in this context as a 'cause' or a 'causal condition'. But I am in favour of retaining such translations simply because such terms as '*hetu*' and '*pratyaya*' mean almost the same thing (and, by the same token, share the same ambiguity) in ordinary Sanskrit as terms like 'cause' and 'causal condition' do in ordinary English. It is a philosopher's privilege to use an ordinary term in a highly specialized sense.

If to cause an effect in the *Abhidharma* means not to obstruct the production of that effect (that is, that *dharma*), to cause an effect in the Vaiśeṣika system means to be its immediate (and 'unconditional') antecedent. The Vaiśeṣikas speak of a causal substrate or a 'substantial' cause (*samavāyikāraṇa*) which is the substance where the effect occurs (through the relation of inher-

[1]See *Abhidharmakośa* and *Bhāṣya* of Vasubandhu, Part I, ed. Swami Dwarikadas Sastri (Varanasi : Bauddha Bharati, 1971), pp. 279-2.

[2]Ibid., p. 349.

ence). Ordinarily, this is the material cause of an effect, even comparable to the 'material' cause in the fourfold division of Aristotle. But strictly speaking, this is a wider notion in the Vaiśeṣika system, since such 'nonmaterial' substances as the soul and the physical space are said to be causal substrates of suitable effects. For example, a state of consciousness as an event is said to occur in the soul (that is, the person) which is its causal substrate.

All causal conditions other than the causal substrate that are relevant to the effect are classified by the Vaiśeṣikas into two groups : *asamavāyin* cause (non-substantial, literally 'non-inherent' cause), and the *nimitta* 'efficient' cause. The former forms an artificial group which includes only qualities (and relational qualities like 'conjunction' *saṃyoga*) that *inhere* in the causal substrate and are causally relevant to the effect.[1] For example, the colour of the threads causes the colour of the cloth, or conjunction of different parts of a table causes the table in this manner. The group of 'efficient' cause includes everything else that is causally relevant to the effect in question. Thus, the potter, along with the potter's wheel, rod, water, etc., is called the 'efficient' cause of the effect, pot. Aristotle's notion of the 'efficient' cause, in a liberal interpretation, can match this Vaiśeṣika notion. But nothing like Aristotle's notion of the 'final' cause or the 'formal' cause can be found in the Nyāya-Vaiśeṣika school.[2]

The distinction of a 'non-substantial' cause from the group of efficient causes seems to be artificial. It was probably based upon the awareness that as long as the effect, the colour of a cloth, exists its 'non-substantial' cause (that is, the colour of the threads) should, like the causal substrate, also exist. But an 'efficient' cause like the potter's wheel may wither away (after the effect is born) without affecting the effect in any way. In other words, the father may die after the son is conceived but what inheres in the son's body and limbs must stay as long as the son is alive.[3] A notion parallel to that of a 'non-substantial' cause of the Vaiśeṣikas is hard to find in the Western tradition.

[1]See Praśastapāda, *Padārthadharmasaṃgraha*, ed. Durgadhara Jha (Varanasi: Sanskrit Visvavidyalaya, 1963), pp. 244, 246.

[2]This is a general comment, which may be subject to qualification.

[3]For this notion of *nimittakāraṇa*, see *Vyomavatī* of Vyomaśivācārya, commentary on *Praśastapādabhāṣya*, ed. Gopinath Kaviraj and Dhundhiraj Sastri, (Banaras : Chowkhamba, 1930), pp. 140-2.

Concern for a causal notion was fundamental in almost all schools of Indian philosophy. We should remember that philosophic activity in India arose out of the cosmogonic speculations of the Vedas and the Upaniṣads. The all-important business of philosophy was to attempt to discover some simple, unitary cause for the origin of this complex universe. Various alternative theories were propounded from the very early period, as is well evidenced in the passages of the Śvetāśvatara Upaniṣad and in the *Nyāyasūtra*, Chapter 4.[1] Some of the main views about the original cause of the universe were: (a) time (b) nature or 'own-nature', (c) *pradhāna* 'the unmanifest' matter, (d) god, (e) atoms, and (f) cyclical dependent origination. Of these, I shall briefly allude to the three important views, the Sāṃkhya. the Buddhist, and the Nyāya-Vaiśeṣika views. (see also § 4.1)

The earliest critique of the notion of cause is to be found in India in the *satkāryavāda* doctrine of the Sāṃkhya school, which was historically the earliest of Indian philosophic systems. The doctrine means that the so-called effect pre-exists in its cause, causation being merely a change or transformation from one state to another, while the original 'thing' (cf. *dharmin*) remains constant and unchanging. An effect means a change in only the attributes or characteristics of the thing, a new state of affairs means manifestation of what was *potentially* present (cf., *sat*) in the early state of affairs, that is, in its so-called cause.[2] The Sāṃkhya metaphysics posits an ultimate, original matter, the *pradhāna* or *avyakta* (the 'chief' or the 'unmanifest') from which the whole material world evolves. It is also admitted that the potential becomes actual at every moment and thus transformation of the world is automatic and instantaneous. This aspect of the Sāṃkhya theory might have influenced the Buddhist doctrine of universal flux (§ 4.1).

The Buddha's doctrine of impermanence (*anityatā*) was developed by the later Buddhists as the doctrine of universal flux. Causation in Buddhism is spanned by its doctrine of conditioned (or dependent) origination (*pratītya-samutpāda*). In Abhidharma, for example, every *saṃskṛta dharma*, that is, every effect, is said

[1]See *Nyāyasūtra* and *Nyāyabhāṣya*, ed. Ganganath Jha, (Poona : Oriental Book Agency, 1939), pp. 246-70.

[2]See *Sāṃkhyakārikā* and *Yuktidīpikā*, ed. Ramasamkar Tripathi, (Varanasi : B. Tripathi, 1970), pp. 59-69.

to originate merely depending upon what is called its *pratyaya* (or *hetu*). The Buddhists reduced causal dependence to nothing more than a mere sequence, a very loose relation usually expressed in the formula : if *x* is, *y* arises (cf., *asmin sati idaṃ bhavati hrasve sati dīrghaṃ yathā*) . The Mādhyamikas rejected the notion of *svabhāva* 'own-being' of things as well as origin (*udaya*) and decay (*vyaya*) of things (*bhāvas*).[1] Thus, they might have paved the way for the doctrine of non-origination (*ajāti-vāda*) of Gauḍapāda.[2] The popular belief that an effect is brought about by its causes is reduced to an absurdity by the Mādhyamika dialecticians.

The doctrine of universal flux is the result of the Buddhist rejection of the notion of *potentiality*. To be causally potent means here only actual production of the effect. Everything is in a flux, there being no stability (*sthiratva*). Causation is simply incessant succession of events. Unlike the Sāṃkhya, the Buddhists rejected the notion of any unchanging core of things, any unchanging *dharmin* underlying the seeming fluctuations.[3]

The Nyāya-Vaiśeṣika school opposed the Sāṃkhya by its doctrine of *a-sat-kārya-vāda*, according to which an effect is a new creation, and hence, numerically different, from its cause. The description of causation in this school is closer to the commonsense view of a cause. True to the spirit of empiricism, causal relation is described here also as one of invariable sequence. Udayana asserted, in answer to the scepticism about causality, that a causal explanation of an event is needed unless we want to settle for a total accidentality or 'whimsicality' of everything. A particular effect happens at a particular moment, not always. This is what is called the 'temporality' (*kādācitkatva*) of an effect, and this temporality implies dependence of the effect upon something other than itself. Causal relation is nothing more than this obligatory dependence.[4]

[1]See *Mādhyamikākārikā* of Nāgārjuna, ed. P. L. Vaidya (Darbhanga : Mithila Institute, 1960), chapts. 1 and 15.

[2]See *Āgamaśāstra* of Gauḍapāda, ed. Vidhusekhara Bhattacharya (Calcutta: University of Calcutta, 1943), pp. 101-12.

[3]For the Buddhist criticism of potentiality (*sāmarthya*), see *Ratnakīrti-nibandhāvalī*, ed. Anantalal Thakur (Patna : K. P. Jayaswal Research Institute), pp. 62-76.

[4]See *Nyāyakusumāñjali* of Udayana, eds. P. Upadhyaya and D. Sastri, (Varanasi : Chowkhamba, 1957), pp. 41-60.

The Nyāya school rejected also the notion of *śakti*, 'power', 'efficacy' or 'force', connected with causation. The Mīmāṃsakas, being consistent with the common belief, argued in favour of an efficacious power or *śakti* present in the cause to produce the effect—a power which can be destroyed by the presence of an 'antidote' (*pratibandhaka*) and can conceivably be resuscitated by an 'antidote to the antidote' (cf., *uttejaka*). Thus, fire burns because of its power to burn—a power which can be either destroyed or resuscitated under suitable conditions. While refuting the notion of *śakti*, Udayana solved the problem presented by the influence of antidotes by boldly asserting that causation implies presence of not only 'positive' causal conditions, but also of relevant 'negative' conditions. For a particular effect to happen, the *absence* of the relevant antidote is also needed as one of its causal conditions.[1]

The Navya-nyāya treatment of causation is interesting in many ways. The notion of invariable sequence is explained as holding between generalities rather than between particular events. Thus, Śaśadhara defined a cause as one belonging to a class, individual members of which invariably precede individual members of another class, the relevant effect-class (cf., *kāryaniyatapūrvavṛttijātīyatva*).[2] A potter's wheel is said to be a cause of a particular pot, because it belongs to the class of those wheels, members of which are *seen* to invariably precede the production of members of the pot-class. The notion of invariable sequence is, however, to be derived from experience, from what is called *anvaya* and *vyatireka* (seeing cases of association and absence).

Although in rejecting the notion of 'efficacy' or 'power' Nyāya resembled the position of David Hume, the doctrine of invariable sequence was not propounded here exactly in Humean spirit. For Hume, it is only the mind that spreads itself on external objects and conjoins them as cause and effect while nothing really exists between them to be so conjoined.[3] This

[1]Ibid., pp. 103-7.

[2]See *Nyāyasiddhāntadīpa*, ed. V. P. Dwivedi and Dhundhiraj Shastri, (Benares Cantt : Lazarus & Co., 1924), pp. 89-92. A critical edition of this text has already been published by me in the L.D. Indological Series, Ahmedabad, 1976.

[3]David Hume, *A Treatise of Human Nature*, ed. L.A. Selby-Bigge (Oxford: The Clarendon Press, 1951), Book I, Part III, Sec. XIV, pp. 166-72.

is more like the Buddhist view than the Nyāya view. For Nyāya, invariable sequence is discovered by the mind but it exists between extramental realities like universals or class characters. Perhaps Nyāya shuns the Humean empiricism while it asserts its doctrine of real universals. In fact, although the early Nyāya-Vaiśeṣika doctrine of universal was modified by Navya-nyāya, it still maintained that certain class-characters were real in order to explain, among other things, the relation of cause and effect.[1]

Thus, it was felt in Navya-nyāya that the criterion of invariable sequence was not enough for distinguishing causal conditions of a particular effect. For example, the production of a pot is preceded invariably not simply by the potter's wheel, but also by the colour and circularity of the potter's wheel. But the colour of the wheel is immaterial and irrelevant to the production of the pot. To exclude such irrelevant items from being considered as causes of the particular effect in question, such Navya-nyāya authors as Śaśadhara and Gaṅgeśa introduced the notion of what they called *ananyathāsiddhatva* 'unconditionality'. The invariable presence of the colour of the wheel before the pot is produced is *conditioned* by the presence of the wheel itself, and hence, it need not be taken into account while we consider the relevant (causal) conditions for the effect in question. By the same token Navya-nyāya excludes the cause of a cause from being considered as a cause of a particular effect. This takes care also of a conceivable case where each time a pot is produced on the potter's wheel, a donkey always walks by immediately before the event. Experience of invariable sequence may demand that we construe the two events as causally related. But Nyāya claims that the 'unconditionality' criterion can save the situation, since it is possible to find a reasonable explanation of each case of such appearances of a donkey. If such a reasonable explanation is found, the donkey's appearance will no longer be an 'unconditional' antecedent.[2]

If the Navya-nyāya analysis of the causal relation seems to be somewhat embarrassing to a Humean empiricist, we may intro-

[1]See my *Epistemology, Logic and Grammar in Indian Philosophical Analysis*, (The Hague : Mouton, 1971), pp. 71-77.

[2]See, for a discussion of *ananyathāsiddhatva*, *Tattvacintāmaṇi* of Gaṅgeśa, ed. Kamakhyanatha Tarkavagisa (Calcutta : Asiatic Society of Bengal, 1884-1901), Part 2, vol. 3, pp. 154-5.

duce here a brief discussion of some contemporary problems of causation. David Hume's critique of causality brought into focus two important questions in contemporary philosophy. The first question is : whether there is, after all, any necessary connection between a cause and its effect ? The second, and perhaps the more basic question is : whether the notion of cause is at all a viable concept in philosophy, useful for explanation and understanding of what are called 'events' ?

Because of the muddle and complexity associated with the notion of 'cause', some modern philosophers (notably Bertrand Russell) despaired of making any sense of the word 'cause', and hence recommended "its complete extrusion from the philosophical vocabulary.'[1] The rise of modern theoretical physics, some doctrines of which throw doubt even upon the once universally acclaimed *universality principle of causation* (the principle that states, "every event must have a cause"), has contributed further to the modern despair about the notion of cause. But whatever may be the situation in theoretical and higher physics, it is almost undeniable that the concept of a cause is quite useful in the common affairs of life, in applied technology, in moral fields, in law and jurisprudence. Thus, I believe, a philosopher can hardly afford to be totally indifferent to this concept. It will be enough to point out here that respectable modern philosophers, such as A.J. Ayer, R.G. Collingwood, C.J. Ducasse, and G. E. von Wright, have found the concept of causality to be useful.[2]

Modern despair about the notion of cause can partly be ascribed to Hume's rigid demand for the empirical analysis of causation. Hume used the notion of similarity or resemblance in giving an empirical explanation of cause. A cause is defined as "an object precedent and contiguous to another, and where all the objects resembling the former are placed in a like relation of priority and contiguity to those objects that resemble the latter."[3] Unfortunately, the notion of similarity invities a number of philosophic problems in empiricism. For one thing, an event today

[1]See B. Russell, *Mysticism and Logic* (1917; reprint ed., Garden City, N.Y.: Doubleday Anchor Books), pp. 174-201.

[2]A.J. Ayer, *Foundations of Empirical Knowledge* (London : Macmillan & Co., 1951), Chap. 4. R.G. Collingwood, *An Essay on Metaphysics* (Oxford, The Clarendon Press, 1940), Part 3-C. C.J. Ducasse, *Nature, Mind and Death,* Part II (La Salle, Illinois : The Open Court Publ. Co., 1951).

[3]David Hume, op. cit., p. 172.

must be similar to an event of yesterday in some *essential* respects in order to be caused by a similar cause. We may recall that Navya-nyāya introduced the notion of real universals or class-character. To avoid this quandary of empiricism, a follower of Hume might argue that similar effects, in order to have similar causes, must be similar only in certain *crucial* or *relevant* respects. It is, however, easy to see that the notion of such "relevance" cannot be explained without resorting to the causal notion, and thus, it will involve us in a circularity.

The question of relevance may enter in the discussion of causal relation in another way. If, following Hume, the notion of necessity is completely eliminated and causation is reduced to mere invariable sequence, then, as Thomas Reid pointed out against David Hume, we have to admit that day is the cause of night and vice versa, since day is seen to be invariably followed by night and night by day.[1] J.S. Mill referred to this criticism of Reid and defended Hume by introducing the notion of 'unconditionality' in defining the notion of cause. Mill argued as follows : "If there be any meaning which confessedly belongs to the term, it is *unconditionalness*....The succession of day and night evidently is not necessary in this sense. It is conditional on the occurrence of other antecedents."[2] Since it is conceivable that there could be circumstances (for example, sudden stopping of the rotation of the earth) under which day will not be followed by night and vice versa, Mill said, the two are *not unconditionally* conjoined, and hence, not causally connected. It is unfortunate that Mill here abandoned, quite unconsciously, the very point of the empirical analysis of Hume, and reintroduced the notion of necessity disguised as 'unconditionality'. Besides, if, as Mill explained, conceivability of the circumstances under which a known invariable sequence may not follow is enough to upset the causal connection between events, then very few events could be said to be causally connected.

Mill's own explanation of the 'unconditionality' criterion was thus hardly satisfactory. However, one may justify the 'uncon-

[1]Thomas Reid, *Essays on the Intellectual Powers of Man*, Essay 4, included in *Works*, ed. Sir William Hamilton, (Edinburg : Maclachlan & Stewart, 1846-1863).

[2]J. S. Mill, *A System of Logic*, 8th ed., Book III, Chap. V, Sec. 6 (1843; New York : Harpar, 1881).

ditionality' criterion in order to distinguish irrelevant antecedents from the causally relevant antecedents. But then, we are thinking of what Navya-nyāya calls *ananyathāsiddhatva* (which I have translated above as the criterion of 'unconditionality'), and not Mill's 'unconditionality' criterion.

The point at issue may be made in the following way. Suppose, there is a unique tribe, each adult member of which has produced, after going through the usual tribal training period, a particular craft. This craft is unique to this tribe, and let us assume that no one else on earth has succeeded in producing that craft. Now, suppose that each such adult member, after his training period and before producing the craft, has got up from bed at 6 A.M. on two successive Sundays. If invariable sequence is enough to establish causal connection, then not only the tribal training period, but also their getting up at 6 A.M. on two successive Sundays should be considered causally relevant! In fact, to be true to the Humean spirit of empiricism, one has to accept such an apparently absurd consequence. The question of what is relevant, namely, the training period, and what is not relevant to the production of the craft cannot be decided unless some notion like the Navya-nyāya idea of *ananyathāsiddhatva* is introduced. It may be noted that an Abhidharma Buddhist can nicely tackle the problem here by taking the bull by the horns. As noted earlier, he can claim that when something *has been* produced, nothing that was prior to it was really irrelevant to its production. Vasubandhu exemplified the point as follows : When the village folk have successfully organized a feast without interference from the proverbial village troublemaker, they can say that the success of the feast was also owing to the help of that troublemaker. In other words, when an event is caused, almost everything, through its non-interference, can be causally responsible for it. Thus, the question of excluding irrelevant items from the domain of cause does not arise.

For Navya-nyāya, the fact of their getting up at 6 A.M. on two Sunday mornings will be what is called *anyathāsiddha* 'conditioned otherwise', and hence, it cannot be causally relevant. In other words, if we investigated each case separately, we could find in each case reasonable explanation of why that particular adult in that case got up at 6 A.M. on two successive Sunday mornings before the said craft was produced. And such an

explanation would reveal that each of these facts was conditioned otherwise, *anyathāsiddha*. In the same way, Navya-nyāya would declare that while being dry, that is, the lack of dampness, is a 'negative' causal condition for the matchstick to ignite, the colour of the matchstick is *anyathāsiddha*, being immaterial to its igniting.[1]

§ 4.3: SUBSTANCE (JAINISM AND VAIŚEṢIKA)

Jaina philosophy has not attracted the attention of modern writers in the same way as Buddhism and Nyāya. This has undoubtedly created a lacuna in our modern discussion of Indian classical philosophy. Being aware of this lacuna, I have tried to combine the remarks of the Jaina teachers with those of others in several places of the previous chapters as well as in the first section (4.1) of this chapter. In this and the following sections, I shall concentrate upon two particular doctrines of Jaina philosophy: Substance and 'sevenfold predication' method.[2]

In the history of Jaina philosophical literature, two teachers (*ācāryas*) were pioneers in composing short treatises in the *sūtra* fashion. They were Kundakunda and Umāsvāti (or Umāsvāmin). The former composed for the first time several authoritative (philosophical) works in Prakrit while the latter wrote the first authoritative Sanskrit treatise in Jaina philosophy. It is not known to us whether Kundakunda composed any work in Sanskrit, nor is it known whether Umāsvāti ever wrote in Prakrit. But both authors depended heavily on the Jaina scriptures and supported the scriptural tradition with philosophic arguments. These two authors belonged to a period that covers the first two or three centuries of the Christian era. About 200 to 400 years later, there appeared two other important Jaina teachers, Siddhasena Divākara and Samantabhadra, who closely followed Kun-

[1] In fact, the *ananyathāsiddhatva* criterion cannot, in final analysis, successfully exclude all irrelevant factors from the relevant causal factor. Gaṅgeśa discusses the problem in *Tattvacintāmaṇi*, Part 2, vol. 3, pp. 154-5. The important question, namely, why, of the two invariably conjoined factors, one is taken to be the causal factor rather than the other, depends partly, according to Gaṅgeśa, on our intuitive notion of simplicity (*lāghava*) and relevance.

[2] See also Matilal (1981).

dakunda and Umāsvāti, and who were responsible for the development and expansion of the Jaina philosophical method. I shall concentrate here on the substance-attribute controversy found in the writings of these four philosophers.

The Jaina conception of existence (*sat*) is intimately related to the Jaina conception of substance. In fact, the concepts of substance and attribute are at the focal point of a number of philosophical problems that have their origin in the early philosophical tradition of India. As I have already said, the paradox of permanence and change, of being and becoming, was as much a live issue for the early Indian philosophers as it was for the Greeks, i.e., the pre-Socratics. The doctrine of substance found favour with those who were inclined toward permanence in the midst of fleeting states or moments. However, those who gave primacy to change and flux were always suspicious of the notion of 'being' or substance. In the Indian context, the Buddhist belonged to the second group, and their 'non-soul' doctrine was, in fact, explained as a variety of the 'non-substance' doctrine. The Vaiśeṣikas believed in the reality of substance and attribute. Broadly speaking, the Jaina position was a compromise between these two extremes.

Let us start with the early sūtras. The *Tattvārthasūtra* asserts.[1] "What there is, has the nature of substance," and "What there is (the existent), is endowed with the triple character, origin, decay and stability (persistence)."[2] The commentary says that whatever originates, perishes and continues to be is called the existent; anything different is called non-existent.[3] The next sūtra continues, the existent is constant, for it never gives up its being (essence ?).[4]

In sūtra 5.37, it is again said: "The substance is possessed of qualities (*guṇa*) and modes (*paryāya*)." While we do not have any definition of modes (*paryāya*), Sūtra 5·40 defines quality (*guṇa*) as: "What reside in a substance, and are themselves devoid of any quality, are called qualities." The *Tattvārtha-bhāṣya* adds:[5]

[1]*Sat dravya-lakṣaṇam*, Tattvārthasūtra 5, 29.
[2]"*Utpādavyayadhrauvyayuktaṃ sat*," ibid., 5.30
[3]See Umāsvāti, under sūtra 5.29.
[4]"*Tadbhāvāvyayaṃ nityam*." Tattvārthasūtra 5.31.
[5]See Umāsvāti, under sūtra 5.40

Though modes too reside in a substance and are themselves devoid of any quality, they are subject to origin and destruction. Thus, they do *not always* reside in a substance. The qualities, on the other hand, are permanent, and hence, they always reside in a substance. This is how qualities are to be distinguished from modes.

Pūjyapāda, in his commentary *Sarvārthasiddhi*, is more specific about the distinction of qualities and modes:[1]

> A quality is (actually) the distinguishing character of one substance from another. For example, the person (soul) is different from matter (non-soul) by virture of (its possession of) cognition, etc.; the matter is distinguished from soul by virtue of qualities like colour. The generic attributes common to souls are cognition, etc., and that of non-soul are colour, etc. The modifications of these qualities, viewed in their particular nature, are called modes (*paryāya*), such as, cognition of a pot, anger, pride (in a soul); and intense or mild odour, deep or light colour in the case of the non-soul.

In the above analysis of the *Tattvārthasūtra*, we have at least two compatible notions of substance: (1) substance as the core of change or flux, and (2) substance as the substratum of attributes. Kundakunda combines these two notions:[2]

> They call it a substance, which is characterized by origin, persistence, decay, without changing its 'own-nature', and which is endowed with qualities and accompanied by modifications. For the 'own-nature' of the substance is its existence (*sadbhāva*), which is always accompanied by qualities and variegated modes, and at the same time, by origin, decay and continuity.

The Vaiśeṣika school emphasized rather the second aspect of the substance, substance as the substratum of qualities and action. Thus, *Vaiśeṣika-sūtra* 1.1.14 defined substance as follows:

> The definition of a substance is that it possesses qualities (*guṇa*) and action/motion (*kriyā*), and it is the substratum-cause.[3]

[1]See Pūjyapāda under sūtra 5.38, p. 199.

[2]See Kundakunda, *Pravacanasāra*, Chap. II, verses 3 & 4.

[3]"*Kriyāvad guṇavat samavāyikāraṇam iti dravyalakṣaṇam,*" Vaiśeṣikasūtra 1.1.14.

The notion of "substratum-cause" (*samavāyi-kāraṇa*) is explained in this context as that which as substratum gives 'causal' support to the changing attributes, qualities and actions. (§ 4.2).

To refer to Aristotle again, he seems to have been emphatic about both the above notions of substance: 1. as a core of change, and 2. as a substratum of attributes. In *Categories*, he wrote:[1]

> The most distinctive mark of substance appears to be that, while remaining numerically one and the same, it is capable of admitting contrary qualities. From among things other than substance, we should find ourselves unable to bring forward any which possessed this mark.

This comment underlines both the notions of substance mentioned above. Aristotle, however, suggested also three other notions of substance, all of which became very influential in later Western philosophy: 3. substance as the concrete individual thing, 4. substance as essence, as one having independent existence, and 5. substance as the logical subject. From his remark that examples of substance can be "the individual man or horse",[2] one can infer the third notion of substance, substance as the concrete individual. But admittedly, Aristotle's remark was too vague to give us any definite conclusion.

The Vaiśeṣika theory of substance included the concept of the 'concrete' individual, but it was extended to include such non-concrete 'things' as the bodyless soul, the sky, time and space. Thus, the notion of substance as a concrete individual thing is too narrow to accommodate the Vaiśeṣika view. Besides, one may reasonably ask: what constitutes the concreteness? The criteria of identification and individuation are clear enough with regard to the standard things like man, table and horse, but very unclear and problematic with regard to such non-standard things as cloud, water and iron.

The idea of substance as the essence or the immutable core seems to have been suggested by Aristotle in his *Metaphysics*. A natural corollary to this notion is that a substance is independently existent.[3]

[1]Aristotle, *Categories*, (4a 10-14), p. 13.
[2]Ibid., *Categories*, (2a 13), p. 9
[3]Ibid., *Metaphysics*, (1028a 29-30), p. 783.

The Jainas too, identify the notion of "it is" (existence) with that of substance, but they add also that "it is" or "it exists" means only that it is endowed with the triple character of origin, decay and stability.

The idea of 'own-nature' (*svabhāva*) in the early Indian philosophy was, perhaps, the nearest analogue of the notion of 'essence' found in the Western tradition. Nāgārjuna and his followers, the Mādhyamika Buddhists, were the champion critics of the 'own-nature,' the immutable core, as well as of the notion of existence which is necessarily dependent. "It is," as the Mādhyamikas will argue, should mean that 'it always is,' and "it is not" should mean that it always is not. The Mādhyamikas, in fact, argued: all things (beings) are empty of their own-nature (own-being) because they are dependently originating (*pratītya-samutpanna*).[1] It is thus clear that the 'emptiness' doctrine has been propounded by Nāgārjuna in order to avoid the paradoxical situation under which existence or own-nature would have to be admitted as dependent and conditioned. It is probably because of Nāgārjuna's trenchant criticism that the Vaiśeṣikas never explicitly stated the 'own-nature' theory of substance, although such a theory might very well have been implicit in their doctrine of substance. The Vaiśeṣikas in fact held a modified position. There are, according to the Vaiśeṣikas, two types of substance: permanent, and impermanent. The atomic constituents of the material substance, and the non-corporeal substances, such as, the sky, time and space, are regarded as permanent substances and independently existing, but the things like the clay-pot and the wooden chair are impermanent and existent only being causally dependent.

The idea of substance as the logical subject was another important notion which became the concern of Aristotle and his followers in Western philosophy. But this notion is no longer appealed to by the logicians today, although some modern philosophers have revived the issue in a different way. Strawson does not mention the word "substance" but shows that material bodies and persons are central notions of our conceptual scheme, and he calls them the basic or fundamental particulars. He also shows the connection of the notion of a 'particular' with that

[1]Cf. "pratītya-samutpannatvān-niḥsvabhāvam, niḥsvabhāvatvāt śūnyam iti upapannam." Nāgārjuna, *Vigrahavyāvartanī*, under verse 22.

of an object of reference or logical subject.[1] This can be seen as the explication of the old problem of substance as the logical subject. In the Indian context, the Vaiśeṣikas never explicitly considered the connection between the logical subject and the notion of substance, although it was probably implied in their early doctrine of substance. The later Indian logicians (including the Buddhists and the Naiyāyikas) coined a new term, *dharmin* ("property-possessor"), which was their nearest analogue for "the logical subject." The Indian logicians developed the notion of *dharmin* independently of that of substance, and, thus, some of the problems connected with the notion of substance as the logical subject were somehow not raised in their discussion.

Amṛtacandra Sūri, commentator of Kundakunda, explains that when a pot is produced from a lump of clay, both the origin of the pot and the destruction of the lump amounts to maintaining the persistence of the clay-substance. In order to prove his contention, Amṛtacandra uses the following reductio (*prasaṅga*): (For Kundakunda's remark see § 4.1.)

> If we do not accept it as true, origin, decay and continuity—all three, none will then be really different from one another. In that case, when the mere origin of the pot is sought after, then *either* it will not originate, for, there will not be any (real) cause for its origin, *or* there will be origination of the non-existent (an untenable paradox). If the pot does not originate, no *bhāvas* (things) will originate. If there is origination of the non-existent (*asat*), then sky-flower, etc. will come into being. Similarly, if mere destruction of the lump of clay is attempted (to the exclusion of the production of the pot), then *either* there will not be any destruction of the lump for want of any (real) cause for such destruction, *or* there will be destruction of the existent or being (an untenable position).[2]

We may again refer to the triple character of the substance. The Jaina authors have dealt with this point very frequently. I have mentioned Samantabhadra's comment in the previous section (§ 4.1). Kumarila, the Mīmāṃsaka, elaborated the point in this way:

[1]Strawson P.F., *Individuals*, p. 136ff.

[2]Amṛtacandra Sūri, in Kundakunda, Ch. II, v.8, p. 125.

If the (gold) plate is destroyed and (instead) a (gold) necklace is made, then the person who wanted the plate will grieve, and he who wishes the latter will be happy, but he who wishes for the gold stuff (only) will neither grieve nor be happy. Thus, the triple nature of an entity is proved."[1]

Turning to the second conception of substance in the *Tattvārthasūtras* (according to which substance is the substratum of qualities and modes), we can say that it was probably derived from the Vaiśeṣika school. In fact, *Tattvārthasūtra* 5.41 defines quality:

Qualities are located in substances, and are themselves devoid of qualities.[2]

This seems to be an echo of the Vaiśeṣika definition of *guṇa* or quality. It is also significant that one of the most important Jaina concepts, mode or modification, is not even defined in the *Tattvārthasūtras*. The Jaina ontological principle of *anekāntatā* 'non-onesidedness', however, is not compatible with the rigid Vaiśeṣika notions of substance and quality. Thus, Siddhasena has added that it would be as good as a heresy in Jainism, if one intends to make the notion of substance absolutely different from that of quality.[3] Moreover, Siddhasena has argued, the supposed distinction between qualities and modes (tacitly accepted by both Umāsvāti and Kundakunda) should also be discarded altogether in order to remain true to the Jaina spirit.

The main contribution of Jaina philosophy was, however, its doctrine of the 'many-sidedness' (*anekāntatā*) of reality along with a unique method that was used (by the Jaina philosophers) to formulate this doctrine. This unique method is called *saptabhaṅgī* or the seven ways of formulating each metaphysical thesis with a view to exposing its non-determinate or non-absolute or provisional or relative character. I shall devote the next section to explain this method in order to clarify certain points that are usually misunderstood by the moderners.

[1]Kumārila, *Mīmāmsāślokavārttika*, p. 613.
[2]Tattvārthasūtra 5.41 : "*Dravyāśrayā nirguṇā guṇāḥ.*"
[3]Siddhasena, *Sanmati*, Ch. III, verses 8-9.

§ 4.4 : Seven Ways of Non-Absolutism (Saptabhaṅgī)

The unique contribution of Jainism to the philosophic tradition of India consists in its doctrine of *Anekāntatā* or Anekānta-vāda (the theory of non-onesidedness). The metaphysical counterpart of this doctrine can be described as the theory of 'many-sided nature' of reality. The Anekānta philosophy, in fact, amounts to a *philosophy of synthesis*, an integrated approach to the ontological problems. And thus, it has both advantages and disadvantages. Conflicting philosophic theories are treated by Jainism as viewing the same reality from different points of view. A thing has infinitefold character, and hence, the philosophic truth can be grasped only by integrating and synthesizing all the viewpoints or standpoints.

In order to prove the Anekānta doctrine, the Jaina philosophers developed a philosophic methodology that was unique to Jainism. It consisted of the dual doctrine of the Jainas : *Naya-vāda* 'the doctrine of standpoint' and *syādvāda* (*saptabhaṅgī*) the doctrine of sevenfold formulation of a metaphysical question. These two doctrines or methods of Jainism have been the two main pillars on which the Jaina philosophy of Anekāntatā rests.[1] In fact, these two methods are complementary to each other. Thus, using the age-old analogy, one can say that the 'standpoint' doctrine is blind without the sevenfold predication, and the latter is immobile (lame) without the former.[2] Their joint operation makes the Anekānta philosophy feasible.

We shall concern ourselves here with only one of these two methods, the doctrine of sevenfold predication. This is a controversial doctrine that has been much criticized by the opponents, and I shall argue here that the Jaina position has often been misunderstood in this respect.

The Historical Background

The sevenfold predication was historically a later development in Jainism, for, we do not find it clearly mentioned in the early canons. A. N. Upadhye, however, has located references to the

[1]The "pillar" analogy is due to Y. J. Padmarajiah; see his *Jaina Theories of Reality and Knowledge*, Bombay, 1963.

[2]The parable of the blind and the lame guiding each other is found in the Sāṃkhya tradition.

three primary predicates (instead of seven) in the *Bhagavatī-sūtra*.[1] Umāsvāti (c. 1st century A.D.) did not make any explicit reference to the seven alternative predicates.[2] But Kundakunda (who most probably belonged to the second or third century A.D.) mentioned the full-fledged seven alternative predicates in his *Pañcāstikāya*.[2]

As forerunners of the sevenfold formula of the Jainas, we have two similar formulas explicitly mentioned in the earlier literature. The first was the fivefold formula of Sañjaya found in the Pāli canons. In the *Sāmaññaphala-sutta* of Dīghanikāya I,[4] Sañjaya is reported to have developed a fivefold formula to answer some metaphysical and moral questions, such as, "whether there is another world or not ?" or "whether something is right or wrong ?" For example,

(1) Question : "Is it this (or so) ?" Answer : "No".
(2) Question : "Is it that (or thus) ?" Answer : "No".
(3) Question : "Is it otherwise (different from both above) ?" Answer : "No".
(4) Question : "Is it not (at all there) ?" Answer : "No".
(5) Question : "Is it not that it is not (at all there) ?" Answer : "No".[5]

The first three alternatives in the above formula, "this-that-otherwise", can be easily reduced to two alternatives, if we use the contradictories, such as, "this-or not this, "or "this-or-otherwise". Thus, the fourfold alternatives of the Buddhists (later of the Mādhyamikas) can be seen as an improved and more precise formulation of the earlier, rather imprecise, fivefold formula. The Mādhyamika denial of the fourfold alternative was :

[1]A.N. Upadhye, Introduction to *Pravacanasāra* of Kundakunda, Bombay, 1955, p. 83.

[2]Some scholars point out that Umāsvāti made an "implicit" reference to the *saptabhaṅgī* in the sūtra : *arpitānarpitasiddhe* (Tattvārthasūtra 5/32).

[3]See *Pañcāstikāya*, ed. A. Chakravartinayaras, Sacred Book of the Jainas, Arrah, 1920.

[4]See *Dīgha Nikāya*, ed. T. W. Rhys Davids and E. J. Carpenter, 3 vols., London, 1890-1911.

[5]The pāli text runs thus : (1) evem̧ pi me no; (2) tathā pi me no; (3) aññathā pi me no; (4) no ti pi me no; (5) no no ti pi me no. I have translated it in the form of questions and answers.

(1) Question : "Does the effect come out of itself?"
Answer : "No."
(2) Question : "Does it come out of the others ?"
Answer : "No".
(3) Question : "Does it come out of both itself and others ?"
Answer : "No".
(4) Question : "Does it come out of neither (self or other)?"
Answer : "No".[1]

It should be noted that the Buddhist answers to all these alternative questions were, like the answers of Sañjaya, in the negative.

Scholars like Herman Jacobi have surmised that Mahāvīra established the sevenfold *syāt* predication in opposition to the "Agnosticism" of Sañjaya.[2] There seems to be some truth in this claim. For, Mahāvīra adopted the method of answering all metaphysical/philosophical questions with a *qualified yes.*[3] But, as I have already noted, there is no textual evidence (either in the Pali or in the Prakrit canons) to show that Mahāvīra had actually used the sevenfold *syāt* predication. K. N. Jayatilleke has apparently been very critical of Jacobi's view in this matter. He has been eager to show that the two (the Jaina formula and the Sañjaya formula) "seem to have a common origin".[4] In his eagerness to show this "common origin" Jayatilleke has mistranslated *syāt* as "may be". I find the argument of Jayatilleke unconvincing as a rebuttal of Jacobi's thesis, viz., Mahāvīra's philosophy was formulated in opposition to the philosophy of Sañjaya. It is undeniable that while the former preferred conditional affirmation of the questions about after-life, etc., the latter preferred a straight denial.

Although Sañjaya resembled the Buddhist in giving negative answers to the metaphysical questions, we should note that Sañjaya's philosophic conclusion was different from that of Nāgārjuna. Out of respect for truth and out of fear of, and distaste

[1]See *Mādhyamika-kārikā* of Nāgārjuna, Ch. I, verse 1, ed. P. L. Vaidya, Darbhanga, 1960.
[2]See p. xxvii, Introduction, *Jaina Sūtras*, Tr. H. Jacobi, Sacred Book of the East (Dover Publication, New York, 1968).
[3]See my *Anekānta-vāda*, L.D. Institute of Indology series, Ahmedabad.
[4]See p. 139, K.N. Jayatilleke : *Early Buddhist Theory of Knowledge*, Allen & Unwin, London, 1963.

for, falsehood (cf. *musāvāda-bhayā*) Sāñjaya adopted a non-committal attitude towards questions about after-life, etc. His position was that definite knowledge about such matters as after-life was impossible to obtain, and he had the boldness to confess it. Thus, I think the Pāli commentator was a bit unfair when he called him an "eel wriggler".

Nāgārjuna's position was slightly different from that of total non-commitment. From the denial of the fourfold alternative, Nāgārjuna was led to a definite philosophic conclusion that these questions about after-life, cause, etc., were only pseudo-questions or that the concepts (regarding which such questions were asked) were only pseudo-concepts. They are, therefore, "empty" of its 'own-nature', of its essence. In this way, Nāgārjuna was led to his "emptiness" doctrine, while Sañjaya was at best a *saṁśaya-vādin*, an agnostic.

In fact, it can be asserted with some confidence that the "three termed" doctrine (cf. *trairāśika*) of the Ājīvakas foreshadowed the sevenfold predication of the Jainas.[1] This Ājīvaka sect, established by Gośāla, declared that everything is of triple character, viz., existent, non-existent and both; living, non-living and both living and non-living. This doctrine of triple character of every entity is more akin in spirit with, and logically closer to, the later Jaina doctrine of sevenfold formula as well as the *anekānta* 'non-onesided' view of reality. For, basically, the Jaina considers only three possibilities: positive, negative and both positive and negative. The seven possibilities, as we shall see presently, were developed out of the three basic possibilities along with a more subtle distinction introduced in the third possibility, viz., both positive and negative.

In the fourfold alternative of the Mādhyamika, the fourth possibility is that of a "neither...nor...". The question was formulated as "Is it neither *A* nor not-*A* ?" The answer was given in the negative by Nāgārjuna (as well as Sañjaya). In the Jaina scheme, however, this question is not even formulated. Thus, we may say that "neither...nor..." is not even accepted as a possibility in Jainism. The reason may be that the "neither...nor..." alternative is one of strong denial or negativity (cf. *prasajya-*

[1]A. L. Basham made this suggestion. See his *History and Doctrines of the Ājīvikas*, pp. 274-5, London, 1951.

pratisedha).[1] But since Māhāvīra, unlike the Buddha, did not follow the line of direct denial, but rather the line of conditional acceptance, the followers of Mahāvīra were certainly true to the spirit of their master in leaving the "neither...nor..." alternative out of their consideration. Besides, this point underlines another logical distinction between the Jaina position on the one hand and the Buddhist or the Sañjaya position on the other. The former apparently violated the Law of Contradiction (since it accepted contradictory possibilities) while the latter, in conceding a "neither...nor..." possibility, seemed to run against the Law of Excluded Middle.

The meaning of Syāt

The uniqueness of the Jaina formula lies in its use of the "syāt" particle in the predication. That is why, the sevenfold predication of the Jainas is sometimes called *Syād-vāda*. In ordinary Sanskrit, "syāt" is sometimes used to mean 'perhaps' or 'may be.' In fact, it is one of the three words used to answer a direct question : "Is *A B* ?" viz., "Yes" or "No" or "*Syāt* (may be)". But the Jainas used this particle in a very special sense. It is a particle that indicates the *anekānta* nature of a proposition.[2] With a *syāt* modifier, a metaphysical proposition is given only a qualified acceptance.

Etymologically, "syāt" is derived from the root *as*+potential/optative third form, singular. Bhaṭṭojī Dīkṣita explained the optative suffix, *liṅ*, in one context, as expressing probability (*sambhāvanā*). Thus, under *Pāṇinisūtra* 1.4.96, the example "*sarpiṣo 'pi syāt*" is explained as : "there is even a chance of (a drop of) butter." But the Jaina *syāt* is even different from this use of *syāt* in the sense of probability. The *Anekānta* doctrine, to be sure, is neither a doctrine of doubt or even uncertainty, nor a doctrine of probability. Thus, "*syāt*" means, in the Jaina use, a conditional YES. It is like saying, "in a certain sense, yes". It amounts to a conditional approval. The particle *syāt*, in fact, acts as an operator on the sentence in which it is used. It turns a categorical ("*A* is *B*") into a conditional : "If *p* then *A* is *B*".

[1]See my *Epistemology, Logic and Grammar in Indian Philosophical Analysis*, pp. 162-5, Mouton, Hague, 1971.

[2]Cf. *siddhiḥ syād-vādāt* (1.1.2) in Hemacandra's *Śabdānuśāsana*, ed. Vijayalavanya Suri, Rajnagar, 1954.

There is also a *concessive* use of "syāt" frequently found in philosophical Sanskrit, viz., "syād etat". This expression means: "let is be so, (but)..." The use of *syāt* in this context implies that the author (or the speaker) only provisionally concedes the position of the opponent, for he tries at the moment to raise a different (and perhaps, a more serious) objection to reject the opponent finally. But the Jaina use of the particle *syāt* in the sevenfold formula is a much more refined sort of concession to the opponent. It concedes the opponent's thesis in order to blunt the sharpness of his attack and disagreement, and at the same time, it is calculated to persuade the opponent to see another point of view or carefully consider the other side of the case. Thus, the Jaina use of "syat" has both; it has a disarming effect and it contains (implicitly) a persuasive force.

Samantabhadra (c. 500 A.D.) has commented upon the meaning of "syāt" as follows.[1]

> When the particle *syāt* is used by you (Mahāvīra) as well as by a śrutakevalin (e.g., a saint) in a sentence, it indicates, in connection with other meanings, non-onesidedness; it qualifies (since it is a particle = *nipāta*) the meaning (of the sentence concerned).

In the next verse (V. 104), Samantabhadra notes that *syāt* is ordinarily equivalent to such expressions as "*kadācit*" and "*kathañcit*". But even these terms, "kadācit" or "kathañcit", do not have in this context such vague meanings as 'somehow' or 'sometimes'. They mean 'in some respect' or 'from a certain point of view' or 'under a certain condition'. Thus, the particle "*syāt*" in a sentence modifies the acceptance or rejection of the proposition or predication expressed by the sentence.[2]

Explanation of the seven answers

"From a certain point of view, you (Mahāvīra) accept, "it is," and from another point of view, you accept, "It is not". Similarly, both "it is" and "it is not", as well as "it is inexpressible".

[1]Verse 103 of Samantabhadra's *Āptamīmāṃsā*, ed. Yugalkisore Mukhtar, Delhi, 1967.

[2]Compare Bhartṛhari's comment on the significance of *nipāta*, *Vākyapadīya*, *kāṇḍa* 2., verse 204. Bhartṛhari says that a *nipāta* qualifies or modifies relation (*sambandhasya tu bhedakaḥ*).

All these (four) are approved (by you) with reference to the doctrine of standpoint (*naya*) only, not absolutely". (*Āptamīmāṃsā*, V. 14).

In this way, Samantabhadra has formulated the first four of the seven alternative predicates. We can symbolize these four basic propositions as '+', '−', '±' and '0'. The fourth predication, "it is inexpressible", is actually interpreted as the joint (combined) and simultaneous (cf. *sahārpaṇa*) application of both the positive and the negative. It is distinct from the third proposition, because in the latter there is joint but *gradual* (one after another, non-simultaneous = *kramārpaṇa*) application of the positive and the negative. Since it is believed that the language lacks any expression which can adequately express this simultaneous and combined application of both the positive and the negative characters, the Jainas say that they are obliged to name this predicate "inexpressible", and we have symbolized it by '0' accordingly. The idea is that since we cannot say "yes" and "no" simultaneously in answer to a question, we can name this variety of our answer as 'inexpressible'.

Although the predication "inexpressible" (or '0') has been reached in the above manner (as is evident from the Jaina texts), the Jainas, however, still regard it as a unitary predicate, a unit, like the positive or the negative (i.e., "it is" or "it is not"). Probably, it was thought that since the two components, positive and negative, are here perfectly balanced and totally neutralized, being applied simultaneously (in the same breath), the predication had lost the compound character and melted into one unitary whole. In other words, a predicate that was compound in character in its inception (or when it was first thought out) turned into a non-compound, primary predicate, because of its internal structure, so to say. I have thus used the neutral symbol '0' to indicate it.

The Jainas have, in this way, three primary and non-compound predicates, positive, negative and the neutral (+, —, 0). Now it is easy to see how the Jainas reached the seven possible varieties. Let the three predication-units be represented by x, y and z. A simple mathematical computation will generate only seven varieties, if we use these three units in three ways, one at a time, two at a time and three at a time :

x,	y,	z,	xy,	yz,	zx,	xyz
$+$,	$-$,	0,	$\pm$,	-0,	$+0$,	± 0

Note that the combination in this formula is comparable to the arithmetical conjunction or the truth functional 'and' such that the internal order in a combination is immaterial, there being no need to distinguish between 'xy' and 'yx'. In mathematical terminology, this is called the commutative property of conjunction.

The Jainas, however, enumerate the above combinations in a slightly different order (adding "*syāt*" to each):

1. "From a certain point of view, or in a certain sense, the pot exists." $+$
2. "From a certain point of view, the pot does not exist." $-$
3. "From a certain point of view, the pot exists and does not exist." $\pm$
4. "From a certain point of view, the pot is inexpressible". 0
5. "From a certain point of view, the pot both exists and is inexpressible." $+0$
6. "From a certain point of view, the pot both does not exist and is inexpressible." -0
7. "From a certain point of view, the pot exists, does not exist, and is also inexpressible." ± 0

One may note that the third predicate in the above list is not the third "neutral" predicate, but a compound one combining the first and the second. In the fourth place in the above, we come across the third primary predicate, "inexpressible".

While explaining the seven predicates, Vidyānanda has noted as follows :[1]

> "Someone says, let there be only four types of formulations. This is not tenable. For, there are three (further) possibilities by combining the positive, the negative and both of them with the 'inexpressible'. Thus, we have sevenfold formulation : (1) affirmation, (2) denial, (3) both affirmation and denial, (4) the joint and simultaneous affirmation and denial, (6) denial, and the joint and simultaneous affirmation and denial, (7) affirmation, denial, and the joint and simultaneous affirmation and denial.

[1]See p. 125, Vidyānanda's *Aṣṭasāhasrī*, ed. Vamsidhara, Nirnayasagar, Bombay, 1915.

It is obvious, however, that the fourth evaluation here ('the joint and simultaneous affirmation and denial', which is Vidyānanda's explanation of the term "inexpressible") must be taken to be a unitary whole, a primary predicate. For, otherwise it would be difficult to explain the sevenfold combination with mathematical computation. And Vidyānanda himself has emphasized that there are seven and only seven alternatives in the Jaina system.

A common objection against the Jaina sevenfold formula has been that instead of accepting only seven alternative predicates in this manner, one might go up to a hundred or a thousand (i.e., to an unlimited number). Thus, a critic like Kumārila had said, "Even one hundred alternatives can be generated through generous use of the method used (by the Jainas) to generate only seven alternatives".[1]

But certainly this is not a fair criticism of the Jaina method. It is based on a misunderstanding. Thus, Vidyānanda goes on to point out that there may be an infinite number of properties or predicates that are ascribable to a subject. The Jaina *Anekānta* doctrine of reality only welcomes such attribution. For, according to the *Anekānta* doctrine, a thing or entity is supposed to possess infinite or innumerable aspects or characters. But the sevenfold formula (i.e., the seven alternative formulations using the three principal modes, positive, negative and the neutral) will be applicable to each attribution of a property, i.e., to each individual predication. In other words, as long as we accept only three basic qualities of one individual predicate (positive, negative, and the neutralized), we shall get only seven possible combinations.[2]

Traditional Objections

Critics of the Jaina sevenfold formula have mentioned many faults or anomalies that are supposed to arise if the doctrine is accepted as a philosophical method. The Jaina writers beginning from Akalaṅka and Vidyānanda have analysed these objections and tried to answer them in detail. Let us make a brief survey of these objections and answers.

[1]Cf. *saptabhaṅgī-prasādena śatabhaṅgy api jāyate*; Kumārila's *Ślokavarttika*, ed. R. S. Tailanga, Benares, 1898.

[2]See Vidyānanda, op. cit., p. 126.

Śaṃkara in his *Brahmasūtra-bhāṣya*[1] mentions, among other things, two specific problems involved in the Jaina position: *virodha* 'contradiction' and *saṃśaya* 'doubt' or 'dubiety'. Śāntarakṣita adds another, *saṃkara* 'intermixture'.[2] Akalaṅka notes seven faults for the *anekānta* doctrine in his *Pramāṇasaṃgraha*: dubiety, contradiction, lack of conformity of bases (*vaiyadhikaraṇya*), 'joint fault (*ubhayadoṣa*)', infinite regress, intermixture, and absense (*abhāva*). Vidyānanda gives a list of eight faults; he omits "joint fault" from the list of Akalaṅka, but adds two more: 'cross-breeding' (*vyatikara*) and the lack of comprehension (*apratipatti*)[3]. Prabhācandra mentions also a list of eight, but he replaces 'lack of comprehension' by the earlier 'joint-fault'.[4] Vādideva drops "absence" (*abhāva*) from the list of Prabhācandra and makes it a list of seven faults.[5] Most of these faults or defects are only minor variations of the three major problems faced by the Jaina doctrine of the sevenfold predication: intermixture, dubiety and contradiction.

Vyomaśiva has mentioned another unique problem of the *anekānta* doctrine.[6] He says that a free (liberated = *mukta*) person will not really be liberated under the *anekānta* doctrine. For, he will be considered, from one point of view, both liberated and not liberated, and, from another point of view, simply not liberated. Besides, if the statement "the thing has *anekānta* nature" involves an unconditional predication, then it falsifies the *anekānta* doctrine, for, according to the *anekānta* principle, no philosophical predication should be unconditional or unqualified. But if the above predication is conditionalized with the *syāt* operator following the Jaina *anekānta* principle (viz., "in a certain sense, the thing has *anekānta* nature", and so on), then we shall be led into an infinite regress or circularity.

The above problem of anekānta is reminiscent of a similar

[1]See Śaṃkara's *Bhāṣya* under Brahma-sūtra 2.2.33, pp. 559-62; ed. M.A. Sastri, Nirnayasagar, Bombay, 1938.

[2]See verse 1722 of Śāntarakṣita's *Tattvasaṃgraha*, ed. E. Krishnamacharyya, Oriental Institute, Baroda, 1926.

[3]See p. 227 of Vidyānanda's *Aṣṭasāhasrī*, op. cit.

[4]See p. 156 of Prabhācandra's *Prameyakamalamārtaṇḍa*, ed. Mohendra Kumar Shastri, Bombay, 1941.

[5]See p. 738 of Vādideva's *Syādvāda-ratnākara*, ed. Motilal Ladhaji, 5 parts, Poona.

[6]See p. 20 of Vyomāśiva's *Vyomavatī*, ed. Gopinath Kaviraj, Benares, 1930.

problem or paradox posed against the "Emptiness" doctrine of the Mādhyamika. Nāgārjuna discussed this problem in the beginning of his *Vigraha-vyāvartanī.* If the statement "everything is empty" is itself empty, then it falsifies the "emptiness" doctrine, and if that statement is not empty, then there is at least one thing that is not empty, which also falsifies the doctrine. Nāgārjuna explained this paradox and answered the objection against his doctrine quite satisfactorily from the Mādhyamika point of of view.[1] As far as I can see, a similar defence of the Jaina doctrine of *anekānta* philosophy or *syād-vāda* is not impossible to construct in order to answer the criticism of Vyomaśiva.

In Defence of the Jaina Position

Of all the charges against the *anekānta* philosophy or the sevenfold *syāt*, the charge of contradiction or self-contradiction is certainly the most serious one. For a philosopher to contradict himself is like writing or stating something and then cancelling it altogether. Do the Jainas really suffer from this offence? Could the Jaina view be defended against the charge of self-contradiction or inconsistency?

Let us focus our attention on the sevenfold predication. It is, however, clear from the interpretation of the *syāt* particle given above, that the first predication does not really contradict the second. The Jainas avoid contradiction by adding the *syāt* particle. The *syāt* operator turns the categorical proposition into a conditional, and thus the logical forms of the first two are:

(i) If p then a is F.
(ii) If q then a is non-F.

Or, more fully:

(iii) For all x, if x is considered from standpoint 1, x is eternal :
(iv) For all x, if x is considered from standpoint 2, x is not eternal :

It is clear that neither (i) and (ii), nor (iii) and (iv) are, in any sense, contradictories. Thus, I think that when the Jainas say that from the standpoint of persisting substance, the person is eternal, but from the standpoint of modal changes (cf. *paryāya*),

[1]See also my *Epistemology*, op. cit, p. 146-67.

the person is not eternal, they do not make any self-contradictory assertion.

How about the third and the fourth predications? The third, to be sure, is the joint (but non-simultaneous) assertion of the first and the second. But if the first and the second are not contradictories, then the third (which is only the truth-functional conjunction of the first and the second) will not be self-contradictory. In other words, the third predication can easily be seen to be free from contradiction in this way. The fourth predication, however, presents a problem. For, it seems to apply two incompatible predicates, eternal and non-eternal, to the subject *in the same breath* or simultaneously. Although the statement is conditionalized with the *syāt* operator, it only means that under certain conditions a thing will have two contradictory characters. Thus, the speaker here may be taken to have contradicted himself and said nothing. (This may partially justify the use of "inexpressible" to denote this predication, for two contradictory predicates are supposed to cancel or erase each other).

In defence of Jaina doctrine, we can make two points here. First, by simple application of contradictory predicates to a thing in the same breath (or simultaneously) the speaker does not land himself into a self-contradiction. For, there is always the chance of there being some hidden meaning which the speaker can explain in order to resolve the apparent self-contradiction. For example, we can say of a man, "He is both over six foot tall and under six foot tall", and then explain that he has a disease which makes him stoop, but that if he were cured and were able to stand upright, he would top the six-foot mark.[1] Mahāvīra himself followed a similar line of explanation in order to elaborate upon the apparently contradictory assertions like 'the person is both eternal and non-eternal'.[2] In this way I think the Jainas can somehow answer the charge of self-contradiction against the fourth predication.

This leads to our second point. The basic assumption in Jainism seems to be the *anekānta* (non-onesided) nature of reality. A thing is supposed to have infinitefold character or

[1]This example is taken from P. F. Strawson : *Introduction to Logical Theory*, pp. 16-19. University Paperbacks, London.

[2]Cf. *Bhagavatī-sūtra*, 2.1.90, ed. S.C.P. Jhaveri and S. Kesarimalaji, 2 vols., Surat and Jamnagar, 1937, 1940.

innumerable aspects or properties. If this premise is conceded then, of course, it becomes possible to apply all kinds of predicates (including contradictories) to the thing depending upon one's point of view or standpoint.

One obvious difficulty in the above concession is this : If it becomes possible to apply incompatible predicates to the same thing, then it defeats the purpose of predication. For one important function of describing a thing or a person with predicates is to distinguish it from other things, to exclude it from other groups.

The Jainas, however, might reply that the fourth predication "the thing is, in a sense, inexpressible" is not intended to distinguish the thing from other things, but to include it in everything else. For, remember the Jainas would be prepared to apply this predicate "Inexpressible" (if we can call it a predicate) to everything without exception. This statement is actually in the same level with statements of other schools like "everything is empty" or "everything is existent (*sat*)." The idea of the Jainas is probably that in such predication the purpose of description might fail, but the purpose of stating a truth will not fail.

The *anekānta-vāda* is thus a philosophy of synthesis and reconciliation, since it tries to establish a rapprochment between seemingly disagreeing philosophical schools. Jaina philosophers contend that no philosophic proposition can be true if it is only unconditionally asserted. They say that the lesson to be drawn from age-old disputes and controversies regarding the philosophic or metaphysical propositions is the following. Each school asserts its thesis and claims it to be the truth, and thus it does not really understand the point that is being made by the opposite side. Thus, rival schools only encourage intolerance in philosophy. This, according to the Jainas, is the evil of *ekānta* 'one-sided' philosophies. Even the conflicting propositions of rival schools may be in order, provided they are asserted with proper qualifications or conditionalization. This is what exactly the Anekānta doctrine teaches. Add a "*syāt*" particle to your philosophic proposition and you have captured the truth.

Non-violence, i.e., abstention from killing or taking the life of others, was the dominant trend in the whole of śramaṇa movement in India, particularly in Buddhism and Jainism. I

think the Jainas carried the principle of non-violence to the intellectual level, and thus propounded their *anekānta* doctrine. Thus, the hallmark of the *anekānta* doctrine was toleration. The principle embodied in the respect for the life of others was transformed by the Jaina philosophers, at the intellectual level, into respect for the view of others. This was, I think, a unique attempt to harmonize the persistent discord in the field of philosophy.

§ 4.5 : 'EMPTINESS' AND 'MANY-SIDEDNESS'

One may facetiously put : Both the Mādhyamika and the Jaina 'cook the *metaphysical* goose' quite well enough, so that all metaphysical doctrines can be eventually disposed of. While the former says that all beings or things ((*bhāva*) are *empty* of its own-being or own-nature (essence ?), the latter says that they can have only a 'non-absolute' nature. Both deny that there could be any absolute conception of Reality (any God's eye view of reality that we humans can possess, except of course the omniscient Mahavira), but while the former is emphatic in his denial and rejects all such attempts (to construct a metaphysical doctrine) to be futile and fundamentally flawed (cf. they grasp the snake at the wrong end), the latter is more receptive, for, he accepts a plurality of such 'conflicting' conceptions of the absolute reality. In fact, the Mādhyamika claims that the sooner we can get rid of all such wrong conceptions the better. The Jaina claims, on the other hand, that by provisionally accepting all such 'partial' (but not absolutely wrong) and 'non-absolute' conceptions of reality we get closer to the truth, for, plurality is the nature of the reality. The Mādhyamika view is *exclusive* (it is not even a view, and hence the designation 'emptiness'), while the Jaina view is *inclusive* (it is, in fact, all-inclusive), for it aims at totality. If a view includes everything, even the conflicting views, then, in a way it also ceases to be a view.

It will be interesting to compare the Jaina dialectic with the Mādhyamika dialectic. The Jainas argue that different philsophers, when they construct different philosophical systems, represent only different 'standpoints.' The Jainas further point out that as long as we emphasize one aspect or standpoint (say the standpoint of 'substance'), while being fully aware that this is *only*

one out of many, equally viable, standpoints, we employ a *naya* 'a right philosophical method.' But when we emphasize only one standpoint by excluding all others, we employ a *durṇaya* 'an incorrect philosophical method.' The business of the *anekānta* philosophy is to expose a *durṇaya,* and isolate and identify the *nayas.*

To illustrate Nāgārjuna's philosophic argumentation, let me quote two verses from the *Mādhyamika-Kārikā* :[1]

> The 'own-nature' (of a thing) cannot be generated by causal conditions (*hetus* and *pratyayas*). For, if the 'own-nature' is generated by causal conditions, it would be (artificially) created.
>
> Now, how could 'own-nature' be (artificially) created? For, 'own-nature' is what is non-artificial (un-created) and independent of others.

Nāgārjuna, thus, carries this point to its logical extreme:

> If the nature or essence (of a thing) does not exist, what is it then that will change ? And if the nature does exist, what, again, is it that will change ?[2]

Consistent with the attitude of the Buddha, who refused to be dragged into the quicksand of philosophic disputations, the Mādhyamika rejects most philosophic positions by exposing their inherent contradictions and anomalies and points out that *tattva* (truth) is not to be arrived at through such philosophic disputations, for, it is only revealed to the *prajñā* or insight. Similarly, consistent with the attitude of Mahāvīra, who tried to resolve the philosophic disputations by analysing various shades of meaning and implications of the concepts involved (see above), the Jainas tried to reconcile the different philosophical schools and showed that the difficulties involved in their *ekānta* positions resulted from their hidden assumptions and tacitly accepted standpoints.

A comment from Siddhasena is particularly illuminating in this connection. He observes :[3]

> All the standpoints (*nayas*) are right in their own respective

[1]*Mādhyamika Kārikā* XV. 1-2.
[2]Ibid., XV, 9.
[3]*Sanmatitarka, I*. 28.

> spheres—but if they are taken to be refutations, each of the other, then they are wrong. But a man who knows the 'non-one-sided' nature of reality never says that a particular view is absolutely wrong.

It should, however, be noted that Nāgārjuna's position of non-commitment was not always expressed through negation or rejection. On rare occasions, he seems to betray what may be called the Jaina spirit of concession and neutrality. For example, consider : *Mādhyamika Kārikā*, chap. 18, verse 8.

> "Everything is true; not everything is true; both, everything is true, and not everything is true; or, neither everything is true nor is everything not true. This is the teaching of the Buddha."

It has been said that both the Mādhyamika and the Jaina share the same sort of scepticism about all metaphysical positions. However, neither of them can be called SCEPTIC in the acceptable sense of the term. How to distinguish a sceptic from Jaina or a Mādhyamika ? I shall refer to Candrakīrti's account of the distinction between a sceptic or a nihilist and a Mādhyamika.

Suppose, a man has committed theft. Another man, who does not, in fact, know whether the first man has committed theft or not, comes along and declares that this is the thief, simply because he happens to have a dislike for that man. Then, a third man, who has actually seen the first man committing theft, comes along to declare that this is the thief. Now, both the second and the third man make the same assertion about what happened in actuality, but yet the difference between them is very significant and important. It is the distinction between a liar and a truthful person, between falsehood and truth—a discrimination about all that matters in Ethics. If we have understood this distinction between the third and the second person, we have then understood something important about a Mādhyamika who declares everything to be empty. This is the way Candrakīrti wanted to explain the distinction between the 'emptiness' doctrine and scepticism, the essential difference between a Mādhyamika and a sceptic.[1]

The above parable, meant to underline the distinction between the 'emptiness' doctrine and scepticism, is, in a sense, somewhat superficial and may be even misleading. For, it might be argued

[1] *Prasannapadā* pp. 156-7.

that the assertion in both the cases is identical and the difference lies merely in what motivated such assertions. Thus, as a report on what the case is, both assertions will enjoy the same 'truth-value'! But this kind of argument only exemplifies how much one can be misled by over-extending the point of a parable. In fact, the usefulness of a parable no longer holds as soon as we stretch it too far.

We have to understand, with great care and caution, the implication of the 'emptiness' doctrine. For, it was Nāgārjuna himself who gave the following warning against any misunderstanding of the doctrine : "Like a snake caught at the wrong end, or like a craft learnt in the wrong manner, the 'emptiness' doctrine may destroy the stupid person when it is misunderstood by him!"[1]

That the pluralistic order of the universe is only a convenient myth and lacks essence or *svabhāva* in the ultimate sense is well expressed by the following Laṅkāvatāra verse :

> Since the essence or 'own-nature' of things, when they are critically examined, cannot be established, such things have been declared (by the Buddha) to be inexpressible and without essence.

The Mādhyamika comes very close to the spirit of the Advaitin with regard to his attitude toward phenomenal plurality. But the Advaitin seems to me to be more committed to a metaphysical absolutism in relation to which he seeks to evaluate ordinary thoughts and experience. The Mādhyamika, however, tries to maintain a non-committal attitude in ontology.

The ultimate truth, according to the Mādhyamika, always eludes our ordinary experience and conceptual thought. But it is admitted to be accessible only to a direct but somewhat mystical experience, a sort of penetrating insight or *prajñā*. If this unlocks the door to mysticism in philosophy, be it so. 'Mysticism', at least 'cognitive mysticism', need not be, it is argued, treated as a derogatory term. For, as we realize more and more the limits of language in our analytical struggle, the idea of something inexpressible may well dawn in our mind, although it would be difficult to make a logical appraisal of this 'inexpressible'.

My point is that proper understanding of the Mādhyamika position ought to produce an incentive to strike a middle course

[1] *Mādhyamika-Kārikā* XXIV. 11.

between excessive naivete and excessive scepticism. The doctrine of 'emptiness', *śūnyatā*, is usually presented as the critique of all views, all philosophical systems. But the implication of this proposition can be misconstrued in two ways : one by the opponent and the other by the so-called proponent. An opponent might think that the Mādhyamika position amounts to nihilism. But this is wrong. A proponent might, on the other hand, think that the Mādhyamika *disproves* all views, all philosophy. But this too, is, in our opinion, wrong. If anything, the Mādhyamika critique is an attempt to show that it is neither proper nor strictly justifiable to regard any particular metaphysical system as absolutely valid. Perhaps in the same vein, T. R. V. Murti has remarked:[1]

> The Mādhyamika dialectic is not refutation;...Refutation is the rejection of an opponent's view by an interested party having a view of his own to establish. A critique is the disinterested analysis of Reason by itself.

Turning again to Jainism, one may say that the doctrine of 'non-onesidedness' (*anekānta*) asks us to avoid the extremes almost in the same way, as the Mādhyamika (or Buddhism in general) seeks to avoid the extremes (cf. *anta*) of eternalism and annihilationism. Hence, it is necessary again to underline the distinction.

Mahāvīra was not strictly a follower of the Middle Way. For him, the 'middle' was also an *anta*, a side, as is evident in the scheme, the left, the right and the middle. Thus, from the Jaina point of view, the Buddha would still be an *ekānta-vādin*, although he was a follower of the middle course. With regard to the doctrine of the four Noble Truths and the impermanence of the five personality-aggregates, the Buddha held a definite position. In other words, with regard to these questions the Buddha was an *ekāntavādin*. Similarly, I think the 'dependent origination' theory of causality in Buddhism is asserted to refute the evil of both extremes (another illustration of the middle course) : *sat-kārya* (the effect pre-exists) and *asat-kārya* (the effect is newly created).

In fact, one can follow the 'middle' course in either of the two ways. First, one can accept the middle course and reject the

[1]See *The Central Pilosophy of Buddhism*, pp. 145-6.

two extremes (*anta*). Thus, one merely suggests a third alternative which excludes the other alternative already suggested. Second, one can accept the 'middle' course without necessarily rejecting the two extremes. In this case, one's alternative does not completely exclude the other alternatives. He merely expands himself to embrace the two alternatives while himself remaining in the middle. The first 'middle' way is based upon rejection and exclusion, the second upon acceptance and inclusion. We may call the first the 'exclusive' middle, and the second the 'inclusive' middle. The Middle Way of the Buddha was of the first kind. Mahāvīra's *anekānta* was of the second kind.

§ 4.6 Avidyā in Buddhism, Yoga and Nyāya

The term *avidyā* is one of the most important terms not only in Buddhism but also in all important schools of Indian philosophy. It is thus an extremely difficult task to find an adequate English (or Western) equivalent of this term. In modern writing interpretation of this term ranges from ambiguous (and evasive) explanation to total misinterpretation. A satisfactory interpretation of this important concept in the context of Buddhism is hard to find. In the present section, I shall try to clarify certain misconceptions that are usually generated around our understanding of the meaning of the term *avidyā*. It will be a preliminary attempt to find a satisfactory explanation of the concept of *avidyā*. To put it facetiously (but not incorrectly, I believe), the present section is being written in complete awareness of our present *avidyā* of *avidyā*. We may not be able to remove the second *avidyā*, but we can hope that more light be thrown on the first.[1]

I shall concern myself here mainly with the notion of *avidyā* that is explained and analysed in the Buddhist and related texts. For comparison and contrast, I shall refer to other interpretations of this term in non-Buddhist sources. But to maintain uniformity and to avoid complication, I shall refrain from

[1] Several students in my class first drew my attention to the fact that a reader of even the Venerable Rahula's excellent book, *What the Buddha Taught*, may be in doubt as to the exact distinction between *avijjā* and *micchā diṭṭhi* (false views); p. 3.

commenting on the comparatively late but quite elaborate discussion of the notion of *avidyā* in late Vedānta schools.[1]

To add one preliminary remark : We are concerned here essentially with the problem of translation of ancient philosophic terms in English or modern languages. It will not be out of place to note a few words about the general problem of conceptual translation. The *American Heritage Dictionary of the English Language* (New York, American Heritage, 1969) defines 'translation' as a process or an act of expression in another language, systematically retaining the original sense or meaning. The ideal of translation, as it is expressed here, is to 'retain the original'. Let us not worry too much about the notion of 'meaning' in this context. Let us assume instead that we have a clear understanding of the meaning of the term we are trying to translate. Then, the point of the above definition may be stated as follows. If we have a clear understanding of the meaning of the philosophic term we are trying to translate, then it is expected that we shall be able to find a suitable term in the second language which will 'retain' the original sense, provided, of course, such a term is available in the latter. But if the suggested term in the second language has certain shades of meaning that are not compatible with those of the original term, we should not recommend such a translation. For, such an incautious translation is likely to generate confusion in the minds of those who are unacquainted with the first language. Besides, even the weaker requirement of translation may not be met under such conditions. For, if we translate a key-term inadequately, even the truth-value of the original sentences where such term occurs systematically may not be retained in translation.

Let me begin by noting a few English equivalents that have been usually accepted by the modern scholars without reservation. The Venerable Rahula has suggested three alternative renderings of *avidyā* in his 'Glossary'; ignorance, illusion, delusion. But he has generally preferred to use 'ignorance'. E. Frauwallner noted 'ignorance' and 'nescience' as two possible equivalents of *avidyā*.[2]

[1]One may consult E. A. Solomon : *Avidyā—A Problem of Truth and Reality* (Gujarat University, Ahmedabad, 1969), for a discussion of *avidyā* in late Vedānta schools.

[2]*History of Indian Philosophy* (translated from original German into English by V.M. Bedekar; Motilal Banarsidass, Delhi, 1973), p. 398.

Both R. Robinson[1] and A.K. Warder[2] have shown preference for 'ignorance'.

The word 'nescience' has a metaphysical overtone, and hence, it is popular with some scholars. But, in fact, it can hardly be a correct translation of *avidyā*. The dictionary meaning of 'nescience' is just 'ignorance' or 'absence of knowledge' (*The Shorter Oxford English Dictionary*), or 'lack of knowledge' (*The Random House Dictionary of the English Language*). But there is another special meaning of the term 'nescience'. It stands for 'agnosticism'.[3]

The concept of nescience was much in use in the nineteenth century writings on Agnosticism in the Christian context. It was supposed to indicate the 'limits of religious thought' and refer to an undogmatic dubiety or *ignorance* about the existence of God. Sometimes, *nescience* is supposed to be hypostatized as the engulfing darkness (lack of knowledge) that surrounds the illumination of *science*. Thus, in view of these peculiarities and overtones associated with the term *nescience*, I think, we can unhesitatingly reject it as a possible equivalent of *avidyā*. For one thing, when a Buddhist talks about *avidyā*, he does not talk about the undogmatic dubiety regarding the existence of God.

I have shown above that there is agreement among several scholars of today about the suitability of the term 'ignorance' for *avidyā*. In fact, some scholars have accepted it without showing the slightest uneasiness. I shall argue below that even the term 'ignorance' is quite unsatisfactory as a translation of *avidyā*.

If 'nescience' is divested of its second meaning, i.e., agnosticism, then it becomes a term synonymous with "ignorance'. My main objection against both 'nescience' and 'ignorance' is that they express a predominantly negative meaning : 'lack of knowledge' or 'absence of knowledge'. Thus, both translations are too vague to make *avidyā* a meaningful concept within the system of concepts found in Buddhism. Besides, and this is my second point, the Sanskrit term *avidyā* (Pali : *avijjā*), although it is 'grammatically' negative (having been formed with a nega-

[1] *The Buddhist Religion*—A Historical Introduction (Dickenson Pub., Belmont, California, 1970), p. 22.

[2] *Indian Buddhism* (Motilal Banarsidass, Delhi, 1970), p. 103.

[3] D.D. Runes (Ed.) : *Dictionary of Philosophy*, (Philosophical Library, New York, Revised Edition, 1960), p. 209.

tive particle), does not mean negation (or absence or lack) of anything. For, it is well-known in Sanskrit grammar that the negative particle in a Sanskrit compound does not always express simple negation or absence.

Let us deal with the second point first. It is undoubtedly a question of grammar and semantics. '*Avidyā*' is a negative compound consisting of a negative particle (*a* = *nañ*) and '*vidyā*'. Patañjali discusses, under *Pāṇinisūtra* 2.2.6 '*NAÑ*', the semantic problem connected with the interpretation of a negative compound. He uses the example '*a-brāhmaṇa*' ('not-a-brahmin.').[1] Patañjali seems to imply that compounds like 'a-brāhmaṇa' (and '*a-vidyā*') are *tat-puruṣa* compounds where the meaning of the second member takes predominance over the first. If this view is accepted, then negation, i.e., the meaning of the first member should be subordinate to the meaning of the second member. Patañjali explains that the word 'a-brāhmaṇa' is applied to someone who is liable to be mistaken as a *brāhmaṇa*. 'A person becomes a brāhmaṇa by all these three : birth (in a brāhmaṇa family), spiritual education and spiritual exercise.'[2] If one is devoid of any one quality of a brāhmaṇa or more, he will be called an *a-brāhmaṇa*. Thus, people say : 'He who eats (his meal) while walking (in the streets) is not-a-brāhmaṇa.' Here people refer to a person who is a brāhmaṇa by birth only but does not behave as a good brāhmaṇa should (or lacks qualities of a good brāhmaṇa). One may also apply the term 'a brāhmaṇa' to one who is not a brāhmaṇa by birth but possesses likeness of a brāhmaṇa. In such cases, Patañjali asserts, the person referred to is usually a person who is liable to be mistaken as a brāhmaṇa due either to false appearances or to false information from another source.[3]

What Patañjali says about 'a-brāhmaṇa' may be applicable to 'avidyā'. Thus, following Patañjali, we have to say that 'avidyā' refers to what can be mistaken as *vidyā*. If 'vidyā' means knowledge of reality, or ultimate knowledge, or simply, knowledge,

[1] *Vyākaraṇa-Mahābhāṣya*, (Ed. F. Kielhorn, Bhandarkar, Third edition, 1962), pp. 410-12.

[2] Ibid., p. 411 : *tapaḥ śrutaṃ ca yoniś cety etad brāhmaṇa-kārakam.*

[3] Ibid., p. 411 : 'Evam ayaṃ samudāye brāhmaṇa-śabdaḥ pravṛtto 'vayaveṣv api vartate jātihīne guṇahīne ca...jātihīne sandehād durupadeśāc ca brāhmaṇa-śabdo vartate.

'avidyā' will mean something that is liable to be mistaken as such.

There are two other possible ways by which we can analyse a negative compound. We can regard it as an *avyayībhāva* compound where the meaning of the first member of the compound predominates. In that case, we can understand 'avidyā' as just lack of *vidyā* (knowledge). Needless to say that in such a case English terms like 'ignorance' or 'nescience' will be suitable equivalents of *avidyā*. But unfortunately, *avidyā* would in that case lose its significance in Buddhism. For, '*avidyā*' as an *avyayībhāva* compound would mean a non-entity, or non-existence (non-existence of knowledge). But in Buddhism a non-entity or non-existence cannot (causally) condition another thing. Thus, since *avidyā* is regarded as a condition (*pratyaya*) of *saṃskāra*, it would be wrong to interpret *avidyā* as non-existence of knowledge.

If, on the other hand, we take 'avidyā' to be a *bahuvrīhi* compound, we have to interpret it as anything that is not *vidyā*. For, in this case the compound acts as an adjective of anything that is not called *vidyā*. But this also will falsify the notion of *avidyā* in Buddhism. For, such things as the eye-organ (and many other things in the world) would then have to be designated as *avidyā*. But 'avidyā' is not applied to such things in Buddhism. Thus, it seems better to accept Patañjali's first interpretation of the negative compound, according to which 'avidyā' will mean only those items that can be mistakenly thought as *vidyā*.

A verse is usually quoted by later grammarians to show that at least six different meanings of the negative particle are derived from various negative compounds. Vāsudeva Dīkṣita, in his *Bālamanoramā* commentary on Bhaṭṭoji's *Siddhāntakaumudī*, quotes this verse and ascribes it to the *prācīnāḥ* 'older grammarians':[1]

> 'They describe six different meanings of the negative particle: similarity, absence, otherness (difference), diminution, impropriety (or reproach), and opposition (or contrariety).'
>
> (i) Similarity : 'He is not-a-brāhmāṇa' (see Patañjali's example).
>
> (ii) Absence : '*a-pāpam*' ('absence of sin').

[1] *Vaiyākaraṇa-Siddhāntakaumudī* (with *Bālamanoramā* and *Tattvabodhinī*; eds. G. Sharma and P. Sharma, Motilal Banarsidass, Benares, 1941, Part 2), p. 75. See also my *The Navya-nyāya Doctrine of Negation* (Harvard University Press, Cambridge, 1968), p. 148.

(iii) Otherness : '*an-aśvaḥ*' (i.e., a cow is other-than-a-horse').
(iv) Diminution : '*an-udarā kanyā*' (cf. 'Here is a girl with no waist, i.e. with very thin waist').
(v) Impropriety or reproach : '*a-paśavo 'nye*' ('Others are not animals' meaning 'other animals are not proper for this sacrifice').
(vi) Opposition : '*adharmaḥ*' ('It is the opposite of dharma').

The above ramification does not leave any doubt in our minds regarding the fact that the negative particle in a Sanskrit compound does not always mean mere negation or lack or non-existence. Vasubandhu has noted that the compound 'avidyā' is to be analysed in the manner of 'adharmaḥ'.[1] Thus, it should belong to the last of the above six categories.

We may now examine the philosopher's explanation of the term *avidyā* as a concept within a system of concepts. The Buddha, in his famous first (official) sermon at Benares, is supposed to have emphasized the doctrine of Thirst or Desire or Craving (*tṛṣṇā*), and pointed out that the origin of *duḥkha* (unhappiness, anguish or suffering) is due mainly to thirst. W. Rahula has rendered the relevant passage in English as follows :[2]

> 'The Noble Truth of the origin of suffering is this : It is this thirst (craving) which produces re-existence and re-becoming, bound up with passionate greed. It finds fresh delight now here and now there, namely, thirst for sense-pleasures; thirst for existence and becoming; and thirst for non-existence (self-annihilation).
>
> The Noble Truth of the Cessation of suffering is this : It is the complete cessation of that very thirst, giving it up, renouncing it, emancipating oneself from it, detaching oneself from it.
>
> The Noble Truth of the Path leading to the Cessation of suffering is this : It is simply the Noble Eightfold Path, namely, right view; right thought; right speech; right action; right

[1] *Abhidharmakośa* (Ed. Svami Dvarikadas Sastri, Bauddha Bharati, Varanasi, in 3 Parts, 1970, 1971 and 1972), p. 463 : 'Adharmānarthākāryādayaś ca dharma-pratidvandvabhūtaḥ. evam avidyāpi vidyāyāḥ pratidvandvabhūta-dharmāntaram iti dṛṣṭavyam.'

[2] *What the Buddha Taught*. W. Rahula; pp. 92-94 (Gordon Fraser, Second Edition, 1967).

livelihood; right effort; right mindfulness; right concentration. (*Saṃyutta-nikāya*, LVI).

Thus, there is no doubt that in the first sermon at least, thirst, and probably thirst alone, was regarded as the chief cause of entanglement in the cycle of births or existences (which is *duḥkha*). F. Frauwallner held the view that the doctrine of Thirst that the Buddha emphasized in his first sermon was in sharp contrast with other teachings found in many other dialogues—teachings where *avidyā* was given prime importance as conditioning, through a chain of conditions, suffering and perpetuating re-birth cycles. Thirst appeared in these teachings beside *avidyā* only as a subordinate condition. Frauwallner suggested that the Buddha, during the propagation of his teachings, had reckoned with the problem of *avidyā* causing suffering, and thus decisively remodelled his doctrine on this point.[1] In other words, when knowledge of the Doctrine, of the Ultimate truth, was asserted to be a means for the cessation of suffering, it was natural to think of the opposite of such knowledge, i.e., *avidyā*, as one of the contributing factors for the origin of suffering.

Whether Frauwallner's view is acceptable or not, one point is undeniable. The Buddha's doctrine of dependent origination or conditioned origination is only a further elucidation of the connection between the origin of suffering and thirst. It is in the elucidation of the so-called twelve causal chains of dependent origination that the notion of *avidyā* gets prominence. The Mahānidāna Sūtra of the *Dīgha-nikāya* describes the dependent origination doctrine as follows :

Old age and death (*jarā-maraṇa*) (1) arise through the condition of birth (*jāti*) (2) Birth or re-birth arises through the condition of becoming (*bhava*) (3) Becoming arises through the condition of attachment or objects of attachment (*upādāna*, literally : 'grabbing') (4) Attachment arises through the condition of thirst or desire (*tṛṣṇā*) (5) Thirst arises through the condition of sensation of feeling (*vedanā*) (6) Sensation arises through the condition of 'contact' (*sparśa*) with sensory and mental stimuli (7) contact arises through the condition of psychophysical complex (*nāma-rūpa*) (8) the psychophysical complex arises through the condition of cons-

[1] *History of Indian Philosophy*, vol. 1, (E. Frauwallner), pp. 150-69.

ciousness (*vijñāna*), and (9) consciousness arises, in turn, through the condition of psychophysical complex. (See also § § 4. 7 and 4.8).

Two significant points may be noted in this connection. First, thirst or desire is mentioned in the middle of the series and is connected with the origin of old age and death by a series of conditions. Old age and death are typical forms of *duḥkha*, and they are said to lead to grief, pain, lamentation and misery. It is thus an elaboration of the conditioned origin of suffering, the second Noble Truth. Second, the series is not yet fully developed here, for certain links found in many other accounts of the doctrine are significantly absent here. When these missing links are added to the description of conditioned origination, we reach back to *avidyā*, which is put at the beginning of the series of conditions.

Scholars have surmised from different accounts of the conditioned origination doctrine that the complete chain of twelve conditions (of which *avidyā* becomes the twelfth condition) represents a later development of the theory, but since the complete chain is found in the teachings of all schools of Buddhism, it is impossible to know whether this was worked out later by the Buddha himself or it was added in the earliest period after the death of the Buddha and before the schisms.[1]

In the complete twelve-membered chain of conditions, it is asserted that sensation (*vedanā*) arises through the condition of 'six spheres' (*ṣaḍ-āyatana*) (6). These six 'spheres' or bases stand for five inner sense-organs and the mind. 'Contact', which is said to intervene as a condition between sensation and six spheres, thus, gains a new meaning, being recognizable as a contact between six senses and six objects of senses (such as, *rūpa* 'visible form'). The six spheres are said to arise through the condition of the psychophysical complex (8), which, in turn, arises through the condition of consciousness (9). Then consciousness is said to arise through the condition of *saṃskāra*[2] 'mental formations or residual forces of *karma*' (see § 4.8 for interpretation of this term). And *saṁskāra* is said to arise when there is the condition of *avidyā*.

[1]A.K. Warder : *Indian Buddhism*, p. 114.
[2]Frauwallner deliberated at length on the exact meaning of this rather ambiguous term. *saṃskāra*. See *History of Indian Philosophy*, vol. 1, pp. 156-60.

Now the question arises : what is *avidyā* ? *Avidyā* is explained in this context as misunderstanding or misconception of the Four Noble Truths, i.e , understanding of falsity as truth. The *Saṃyutta-nikāya* notes in the first of the sūtras on the Way (*mārga*), that *avidyā* leads to wrong theory (*mithyādṛṣṭi*), wrong intention and wrong speech, and the Right Way is to get back to the right theory, right intention and right speech. Thus also we can understand the connection between *avidyā* and *saṃskāra*. For, false beliefs and wrong convictions give rise to the propensities or forces to act wrongly, and to act under misconception is to get involved in the cycle of rebirth, in the chain of conditions, in *duḥkha* and bondage. In this context, *avidyā* can hardly mean mere lack of knowledge, ignorance. For, wrong actions, to be sure, proceed from wrong beliefs, wrong convictions, wrong understanding of the nature of reality, not from simple lack of knowledge. We do not, for example, act in deep sleep which is presumably characterized by complete absence of knowledge.

Next let us analyse the *Abhidharma-kośa* account of the term *avidyā*, with the help of Vasubandhu's *Abhidharma-kośa-bhāṣya*. The notion of *avidyā* arises in the *Abhidharma-kośa* mainly in two different contexts. First, it is listed as one of the six principal *anuśayas* or *kleśas* 'defilements or taints'.[1] Second, it is listed as the last member of the chain of conditions in the dependent origination theory (as we have seen above).

All conditioned *dharmas* (elements of reality) are classified in the Abhidharma as *sāsrava* 'conducive to defilements' except when they fall under the Way (*mārga*, i.e., the Buddhist Way leading to cessation of suffering).[2] Those falling under the Way and the unconditioned ones are called *anāsrava* 'unaffected by defilements'. In fact, in the Abhidharma, the following terms have closely connected meanings : *kleśa*, *anuśaya* and *āsrava*. 'Kleśa' and 'anuśaya' refer to the same group of items, but they cannot be strictly synonymous. For, *kleśa* 'defilement' is said to be the items in conjunction with which *karma* 'action' perpetuates our painful existence or becoming, our suffering. But the latent forms of these defilements are called *anuśaya*. 'Latency' is further explained in this context as potentiality or the existence of the defilements in seed-forms. Their potentiality to generate

[1] *Abhidharmakośa*, Chapter V, p. 761 ff.
[2] Ibid., Chapter 1, p. 16.

further defilements is itself the result of the previous defilement.[1] The word 'āsrava' is used to refer to any kind of 'taint' generated by a dharma. But unless and until these taints receive also 'nourishment' and are allowed to perpetuate in seed-form, the corresponding dharma cannot be called 'conducive to defilements' or *sāsrava*. That is why the dharmas under the Way might generate 'taints' but they are unaffected by defilements.[2]

In the fifth chapter of the *Abhidharma-kośa*, six major types of defilements or defilement-potentialities (*anuśaya*) are mentioned : passion, hate, conceit (egotism), *avidyā*, wrong conviction (*dṛṣṭi*), and dubiety.[3] Let us direct our attention to the last three in this list, 'Wrong conviction' has been analysed further into five types : i) *satkāya-dṛṣṭi* or the view that the five aggregates are soul or self for us; ii) *antagrāha-dṛṣṭi* or the view that one of the two extremes, eternalism or annihilationism, is correct; iii) *mithyā-dṛṣti* or the conviction that the Four Noble Truths do not exist; iv) *dṛṣṭi-parāmarśa* or the conviction that regards the despicable and the inferior as praiseworthy and superior; and v) *śīlavrata-parāmarśa* or the view that regards the wrong way as the right way, God as the cause and the Lord of this universe, and so on.

Vasubandhu notes under *mithyā-dṛṣṭi* (false view ?) that all the other (four) views (mentioned above) can also be designated as *mithyā-dṛṣṭi* 'false view'. But false view as one type of *dṛṣṭi* 'wrong conviction' consists in the rejection of the right view or truth, while other types of wrong conviction consist in the superimposition of the wrong characteristics on right things. In fact, all wrong convictions fall under the general category of false view and the fivefold classification serves only a soteriological purpose. But what is more important for us to note that *avidyā*, being listed as one of the six major defilements, should apparently be distinguishable from the group of five wrong convictions. Five wrong convictions are also referred to as *ku-prajñā* 'bad wisdom'. And in another context it has been

[1]Ibid., p. 763 (Ch. V) : 'Prasupto hi kleśo 'nuśaya ucyate, prabuddhaḥ paryavasthānam, Kā ca tasya prasuptiḥ? asammukhībhūtasya bījabhāvānubandhaḥ.'

[2]Ibid., p. 17 : 'Kāmaṃ nirodha-mārgasatyālāmbanā api āsravā upajāyante, na tv anuśerate tatra iti na tayoḥ sāsravatva-prasaṅgaḥ.' (Ch. 1).

[3]Ibid., Ch. V, p. 761.

asserted that *avidyā* is only a mental dharma concomitant (cf. *saṃprayukta*) with 'bad wisdom', and hence, it is not to be identified with bad wisdom.[1]

In the second chapter of the *Abhidharma-kośa*, a synonym for *avidyā* is suggested : *moha* 'confusion'. *Moha* is mentioned here as one of the six mental concomitants (cf. *saṃprayukta*), which accompany any defiled mind-moment (cf. *kleśa-mahābhūmika*).[2] Vasubandhu notes here that '*moha*' stands for *avidyā* or *ajñāna* or *asaṃprakhyāṇa*. Now, if *avidyā* is confusion or misconception, which is to be distinguished from wrong convictions or false views, what kind of confusion or delusion would it be ? I think we have to call it 'cosmic confusion' or cosmic misconception which itself being beginningless is at the root of our involvement with *duḥkha* and the re-birth cycle.

Explanation of *avidyā* as a terminal member of the twelve chain (See § 4.8) of conditions is given by Vasubandhu in Chapter III of the *Abhidharma-kośa*. *Avidyā* is interpreted here as referring ambiguously to all the *kleśas* 'defilements' (enumerated above) of the previous birth or existence in relation to the present existence. In other words, *avidyā* here is a blanket expression to refer to the group of defilements carried over from the previous existence to the present existence. Vasubandhu takes pains to show that use of *avidyā* here is only a stylistic device, and should not be construed as equating *avidyā* with all other defilements. *Avidyā* is selected from the group of defilements, because it invariably accompanies all other defilements.[3] Yaśomitra explains that only under the influence of cosmic confusion or misconception (cf. *mūḍha*) all other defilements arise and perpetuate. Thus, following the dictum, *prādhānyena vyapadeśā bhavanti* 'designation is determined by the principal factor', all the defilements of the previous birth are called *avidyā*.[4] Or, one may say, *avidyā* is used here in order to practise economy of words. Instead of mentioning all the defilements, only the chief one is mentioned. For, when one says 'The king is coming' it is implied that his followers (bodyguards, etc.) are also coming

[1]Ibid., Ch. III, p. 463.
[2]Ibid., Ch. II, p. 191.
[3]Ibid., Ch. III, pp. 436-7.
[4]Ibid., Ch. III, p. 437 ; (Yaśomitra :) 'mūḍhasya hi kleśasamudācārāḥ nāmūḍhasya.'

along with him. And for the sake of the economy of words, one does not mention the followers.[1]

Vasubandhu also deliberates upon the etymological meaning of the term *avidyā*. Let me fully quote the discussion from the *Abhidharma-kośa-bhāṣya*.

> Now, what is meant by 'avidyā' ? If it means that which is not vidyā then even the eye, etc. will be designated as avidyā. If it means lack of knowledge, then it would be a non-entity. And it is not proper to call avidyā a non-entity. Therefore, Avidyā is a *dharma* (element of reality), a different one, which is the opposite (reversal) of *vidyā*. The negative compound here is to be explained in the manner of *amitra* ('a non-friend') or 'an-ṛta' (untruth') (v. 28cd). A person who is the reverse of a friend is called a non-friend (an enemy). We cannot call just anybody an enemy. Nor can we designate the absence of friend or friendship as enemy. 'Ṛta' means truth. 'An-ṛta' means untruth, and any statement that is opposite of the truth is called untruth. Similarly, terms like 'adharma', 'anartha' and 'akārya' are explained as the opposite of *dharma, artha* and *kārya*. Thus, *avidyā* is to be understood as the opposite of *vidyā*, Why so ? Because *avidyā* has been described as a *pratyaya* 'condition' (in the chain of conditions).[2]

Vasubandhu has quoted further evidences from the *śāstra* to show that *avidyā* cannot refer to mere negation of *vidyā*. The word 'avidyā' has been used in the sacred texts in connection with many action-words such as, 'combining'. A mere negation, Vasubandhu argues, cannot be the object of any such action-words, and hence *avidyā* should be construed as a positive *dharma* (cf. *dharmāntara*).[3]

Since in the Abhidharma, *avidyā* is used as a blanket expression for all the defilements (*kleśas*) of the previous birth, a genuine confusion may arise regarding the import of the term *avidyā* as such. Thus it is that Bhadanta Śrīlābha held to the view that *avidyā* actually means all the defilements. But Vasubandhu has explicitly rejected this view of Śrīlābha for reasons we have already discussed above.[4]

[1]Ibid., p. 437 : 'Rājāgamanavacane tad-anuyātṛkāgamanasiddhi-vat.'
[2]Ibid., p. 463.
[3]Ibid., Ch. III, p. 463 : 'Tasmād dharmāntaram evāvidyā.'
[4]Ibid., Yaśomitra's Comm., Ch. III, p. 465.

It might be useful at this point to compare the list of the five *kleśas* 'defilements' given in Patañjali's *Yogasūtra* 2.3, with the list of *kleśa* in the Abhidharma. Patañjali's list runs as follows : *avidyā*, egotism or conceit, passion, hate and *abhiniveśa* 'bewilderment'.[1] Here *abhiniveśa* takes the place of *vimati* 'dubiety' of the Abhidharma list. It is significant to note that the item called *dṛṣṭi* 'wrong conviction' or 'bad wisdom' is absent from the list in the *Yogasūtra*. For, it is already comprised by the comprehensive term *avidyā* in the context of *Yogasūtra*. *Yogasūtra* 2/5 defines *avidyā* as the understanding of the impermanent, the impure, the painful and the non-self as permanent, pure, pleasurable and self. In other words, it stands for the misconception or misunderstanding of the relevant doctrine and the consequent misunderstanding of the real nature of things which cause perpetuation of suffering in the form of birth and re-birth cycle. Thus, typical false views or wrong conviction can be brought under this liberal notion of *avidyā*.

It has been shown above that *avidyā* cannot be a negative concept in Buddhism. In a general context, *avidyā* may stand for false beliefs or a false belief-system which we all grow up with in the worldly environment. But in Buddhism it obtains a specialized meaning. For, not all false beliefs are technically called *avīdyā* in Buddhism. The ultimate concern in Buddhism. was for *nirvāṇa*, cessation of suffering. If we can call *nirvāṇa* salvation, then *avidyā* becomes essentially a soteriological concept. It stands for the opposite of that ultimate knowledge or insight which brings about the goal of *nirvāṇa*, final freedom from suffering. It is the inherent misconception, a beginningless, *cosmic* confusion in all of us, which perpetuates our painful existence.

For a more mundane interpretation of the term *avidyā* in the ancient texts, we shall have to consider the Vaiśeṣika system. Praśastapāda in his systematic presentation of the Vaiśeṣika system in *Padārthadharmasaṃgraha*, notes that there are two types of *buddhi* or cognitive states : *vidyā* 'true cognition' and *avidyā* 'false cognition'. *Avidyā* 'false cognitive state' is thereafter classified into four classes : doubt, error, uncertainty and dream.

[1]The *Yogadarśana* of Patañjali (ed. M.G. Bakre, Nirnaya Sagar Press, Bombay, 1917), pp. 36-37.

Under 'error' Praśastapāda includes the typical false beliefs (for the Vaiśeṣika school) such as, believing in what is impermanent as permanent, what is not-self as self, and what is not good as good.[1] (Vātsyāyana in the Nyāya school gave a similar interpretation of what he called *mithyā-jñāna.*) Thus, *avidyā* in the Vaiśeṣika school stands for a more general concept. The important point to note is that it is definitely asserted to be a cognitive state (being subsumed under *buddhi* 'cognitive state'). It is a cognitive state, but only an untrue one. It is not merely an absence of knowledge. It includes not only wrong conviction, errors and delusions, but also doubtful attitudes, uncertainties and dream states. And it is also asserted that *avidyā* with regard to a particular thing is eliminated (destroyed) by the corresponding *vidyā* 'knowledge' of that thing.

That *avidyā* can hardly mean lack of knowledge can be proved with a very simple example. *Avidyā* is said to be the guiding force of our action. But certainly mere lack of knowledge does not motivate us to act. It is knowledge or something mistaken as knowledge that motivates us to act. A child, for example, has what we call lack of knowledge or ignorance about many things, such as, the theory of relativity. But his lack of knowledge about the theory of relativity can hardly be interpreted as his wrong attitude, or false beliefs or misconceptions about it. For, it will be ridiculous to say that the new-born child has a misconception about the theory of relativity. We, adult human beings, on the other hand, not only lack knowledge about the ultimate truth or the ultimate goal or how this ultimate goal is to be obtained, but also it is correct to say that we have a million false beliefs or wrong conviction about that ultimate goal or the ultimate truth or the Way. The doctrine of *avidyā*, divested of its sectarian meanings, simply states that knowledge begets freedom by destroying our *avidyā*, our false beliefs, misconceptions and wrong convictions.

[1] *Padārthadharmasaṅgraha*, included in Udayana's *Kiraṇāvalī* (ed. J.S. Jetly, Gaekwad Oriental Series, Baroda, 1971), pp. 171-82.

§4.7: THE ENIGMAS OF BUDDHISM : ĀLAYAVIJÑĀNA, DUḤKHA AND NIRVĀṆA

The concept of 'pudgala'

The Brahminical idea of 'self' or 'soul was rejected by the Buddha. This aspect of his teachings is too pronounced to be missed. But even at a very early stage of Buddhism, there arose within the tradition much controversy over the idea of a 'person' (*pudgala*). The *Kathāvatthu* supplies ample evidence of this fact. The 'Bhāra' dialogue of the *Saṃyutta-nikāya*[1], where the 'burden' (*bhāra*) is represented as *saṃsāra* and the carrier as the 'person', is often referred to as the Buddha's concession for some persisting entity through the cycles of transmigration. Of the early Buddhist schools, the Vātsīputrīyas and the Sāmmitīyas maintained the notion of a persisting entity called 'pudgala'. This 'pudgala' comes very close to the doctrine of 'soul', which would naturally be regarded as a heresy in Buddhism. In fact, the Vātsīputrīyas and the Sāmmitīyas were accused of such a heresy. But the Sāmmitīya's defence of 'pudgala', as K. Venkataramanam informs us, need not be regarded as a heresy. The pudgala here is not exactly the *ātman* of the Brahmanas. The argument is rather for an entity persisting through the ever-fluctuating states of transmigration.[2]

The Buddha accepted a highly complex notion of transmigration without a transmigrating soul.[3] The analogy is that of a river or stream where there is a continuum but no persisting entity. Although transmigration can conceivably

[1]This *sūtra* is alternatively referred to as *Bhārahāra-sutta* or *Bhāra-sutta*. See *Saṃyutta-nikāya*, Part III, pp. 25-26. Cf the following lines :

Bhārā have pañcakkandhā
bhārahāro ca puggalo
bhārādānaṃ dukkhaṃ loke
bharanikkepanaṃ sukhaṃ p. 26.

[2]The word "transmigration" is, perhaps, an unfortunate translation to express the Buddhist sense of *saṃsāra*. Prof. A. K. Narayan drew our attention to this point at a symposium. I have, however. retained this translation in the absence of a better word that might be acceptable to most of us.

[3]For the Sāmmitīya explanation of *pudgala* see K. Venkataramanam's translation of the *Sammitīyanikāya-śāstra*, *Visva-Bhārati Annals*, vol. V, 1953, pp. 153-242.

be explained without resorting to a persisting soul, the idea of an underlying 'link' running through the fluctuating states arose quite naturally in many later systems which tried to explain the Buddhist notion of transmigration. The *pudgala* of the Sāmmitīyas was no doubt posited as such a 'link'. The Yogācāra's concept of *ālayavijñāna* was another, and perhaps a more sophisticated, approach to explain away this 'link' problem.

It is somewhat paradoxical to see that there was also an important trend in Buddhism which recognized an absolute spiritual principle. This trend must have created an internal conflict in Buddhism because the 'no-soul' doctrine, the predominant trend in Buddhism, could not easily be reconciled to it. In Mahāyāna, this principle is usually called the *Tathāgatagarbha*. In Yogācāra system, this principle was attributed to *ālayavijñāna*.

Vijñāna in the five personality-aggregates

The group of 'five personality-aggregates' (*pañca skandhāḥ*) is usually substituted for 'self' or 'person' in Buddhist literature. In interpreting them I shall mainly follow Vasubandhu's *Abhidharmakośa-bhāṣya*. The 'aggregate of matter' refers to the visible forms of the material world, The 'aggregate of feeling' (*vedanā-skandha*) stands for the experiences of pleasure, pain and neutral feelings. The 'aggregate of knowings' (*saṃjñā-skandha*) is to be explained as the awareness (or the conceptual construction) of the 'specific' characters of objects (cf. *Abhidharmakośa* I/14). The 'aggregate of *saṃskāra*' includes all other mental acts (*citta-dharma*) as well as other acts and 'forces' which are not attendant upon an act of consciousness (*citta-viprayukta-dharma*).[1]

The 'aggregate of consciousness' is usually divided into seven items. They are: consciousness of the five senses, 'mental' consciousness (*manovijñāna*) and the mind. But in the Sarvāstivāda, although 'mind' (*mano-dhātu*) is mentioned, it is not considered an additional entity.[2] It is just any one of the six types of

[1]For a good discussion of this item, see P. S. Jaini, pp. 88-98.

[2]The usual trend in the *Āgamas* as well as in the *Abhidharma* is to analyse dharmas into *skandha*, *āyatana* and *dhātu* ('aggregates', 'bases' and 'basic elements'). Thus, 'mind' is included in the *vijñāna-skandha*. Among the *āyatanas*, there is one called *mana-āyatana*, and among the *dhātus*, there is

consciousness. The consciousness in the immediately preceding moment acts as the 'locus' (*āśraya*) of the consciousness in the next moment and is designated as 'mind.' This explantion is related to the Abhidharma concept of *samanantara-pratyaya*.[1]

In the Sthaviravāda school, however, 'mind' is distinguished from the six *vijñānas* (which include *mano-vijñāna*). In *Abhidhammatthasaṃgaho*, three peculiar functions (*pañcadvārāvajjana*, or adverting of mind toward any of the five 'doors', i.e., senses, and two classes of *sampaṭicchana*, or mental 'acceptance' of impressions—S.Z. Aung's translation) are ascribed to *manodhātu* 'mind'.[2] Some other functions like *santīraṇa* (investigating) and *voṭṭhāpana* (determining) are ascribed to *mano-vijñāna* 'mental consciousness'. Another entity, viz., *hadaya-vatthu* 'the heart essence', is sometimes posited by the Sthaviras as the seat or locus of consciousness, and as locus it is distinct from consciousness.[3] But the 'heart essence' is described as a *subtle* material form (*sūkṣma-rūpa*) and, as such, it is different from *citta-dharma* 'mental form'. The *Dhammasaṅgaṇi* omitted this 'heart-essence' from its list, so did the Sarvāstivādins as well as the later Yogācārins. But the Yogācārins speak of the 'mind' or the 'ego-shrunk mind' (*kliṣṭa-manas*) as different from the six *vijñānas*. Thus, surprisingly, the Yogācārins agree with the Sthaviras in this respect. Another 'subtle material form' in the list of the Sthaviras was *jīvitendriya* 'life' or 'life function'. In Sarvāstivāda and Yogācāra, it was included in the *citta-viprayuktasaṃskāra* 'non-material, abstract elements not concomitant with any consciousnss'.[4]

---

one called *mano-dhātu* or *manovijñāna-dhātu*. But *mana-āyatana* and *mano-dhātu* are considered to be the same. And the Sarvāstivādins consider the *mano-vijñāna* and *mano-dhātu* to be the same. Cf. *Abhidharma-kośa*, 1/16.

[1] Cf. *Abhidharma-kośa-bhāṣya*, I/16, 17; *Abhidharma-dīpa*, I/6, 7.

[2] For the position of the Sthaviras, see S. Z. Aung's note on *dhātu* and *āyatana* in *Compendium of Philosophy*, pp. 254-9. See also Aung's note on pp. 108-9. 3.

[3] See Yaśomitra's *Sphuṭārthā* under *Abhidharma-kośa*, I/17. See also *Abhidhammatthasaṅgaho*, Chap. III, p. 82 :

vatthusaṅgahe vatthuni nāma—cakku-sota-ghāṇā-jihvā-kaya-hadaya-vatthu ceti chabbidhani bhavanti /

For the Sthaviras' position on the connection between the *mano-dhātu* (as well as the *vijñānas*) and the *hadayu-vatthu*, see, ibid., p. 83.

[4] See note 1, p. 334. For the Yogācāra notion of *Jīvitendriya*, see Asaṅga's *Abhidharmasamuccaya : jīvitendriyaṃ katamat/nikāyasabhāge pūrvakarmā-viddhe sthitikālaniyame āyur iti prajñapti* / p. 11.

More interesting is the concept of *bhavāṅga vijñāna* in the Sthaviravāda. It has been explained as the passive state or 'current' (*srota*) of consciousness linking the fluctuating and transmigrating stages. It is contrasted with the active stream of consciousness (cf. *vīthi-citta* in Sthaviravāda, and *pravṛtti-vijñāna* or *viṣaya-vijñapti* in the Yogācāra). As S. Z. Aung has aptly put it, "it is, as it were, the background on which thought-pictures are drawn" (p. 11). This current is said to be bounded by birth (*pratisandhi*) and death (*cyuti*), but as death is but a prelude to another birth, according to the Indian theory of *saṃsāra*, this current flows from life to life, from existence to existence. It is also said to create the false notion of 'personal identity'.[1]

Consciousness moments or the flow of active thoughts are usually classified in Buddhism into 'good' (*kuśala*) and 'bad' or 'evil' (*a-kuśala*) types. Since good cannot spring from evil or vice versa, there arose a problem in the Buddhist explanation of the causal continuum of the flow of consciousness moments: How can a good *citta* 'thought' arise out of a bad one? The Sthaviras explained the causal process taking recourse to the notion of *bhavāṅga-vijñāna*, which is *a-vyākṛta* 'indeterminate' (i.e., neither good nor bad) and, therefore, can very well intervene between the emergence of a good thought and a bad one.[2]

The Vaibhāṣikas posit two additional entities called *prāpti* and *a-prāpti* (two *citta-viprayukta-saṃskāras*), which are merely two 'forces' one controlling the collection of particular causal conditions and the other preventing such a collection. Thus, emergence of a bad *citta* can be succeeded by that of a good one through the operation of these two 'forces'—one preventing the bad while the other causing the good to arise and vice versa.[3]

The Sautrāntikas criticize both these views and posit their theory of 'seed' and 'maturity'. Seeds of evil are said to co-exist with seeds of good side by side, in the form of 'subtle' seeds.

[1]The process of active thoughts arising out of the 'passive' mind is described in detail in the *Abhidhammatthasaṅgaho*, Chap. IV. See also Aung's Introductory Essay, pp. 27-30.

[2]See P. S. Jaini, *Introduction*, pp. 101-10.

[3]For Vasubandhu's critique of *prapti*, see *Abhidharma-kośa-bhaṣya* under verses II/35-36. Yaśomitra, explains in *Sphuṭārthā* why this notion is not exactly the same as the *saṃyoga* 'conjunction' of the Vaiśeṣikas.

Only one of them operates at a given time, the one that has reached its *vipāka* i.e., maturity.[1]

Now, we can take a close look at the Yogācāra classification of *vijñāna*. Asaṅga, in his *Yogācārabhūmi*, studies the 'plane of mind' (*manobhūmi*) in its five aspects: its 'own nature' (*svabhāva*), its locus, its intentional reference, its accessories, and its action. Its 'own nature' has three forms: *citta*, *manas* and *vijñāna*. *Citta* is *ālaya-vijñāna*, *manas* is the 'ego-shrunk' or 'ego-centered' mind, and *vijñāna* is the 'consciousness of six senses'.[2]

The locus of consciousness can be of three types: a causal concomitant (cf. *sahabhū*), or a causal precedent (cf. *samanantara*), or a causal seed (cf. *bījāśraya*). The causal concomitance of the five types of sensory consciousness are respectively the five senses themselves. The causal precedent is the 'mind', which is interpreted, following the Sarvāstivāda principle, as the immediately preceding consciousness moment.[3] The locus which is the causal precedent to the 'mental' consciousness is distinguished as the 'ego-shrunk' mind (*kliṣṭaṃ manaḥ*), which is attendant (*saṃprayukta*) with ego-sense, pride, etc. (*asmimāna*, etc.). The causal seed, however, for all types of consciousness, is *ālayavijñāna*. Thus, it is clear that the idea of a causal seed of the Sautrāntikas and the idea of a subterranean current of consciousness continuum which was vaguely present in the Sthaviras' talk about the *bhavāṅga-vijñāna*, and contributed to the development of the notion of *ālayavijñāna* in the Yogācāra system.[4]

[1]For the Sautrāntika position, see Vasubandhu's *Abhidharma-kośa-bhāṣya* under verse II/36, p. 64, and verse V/2a, p. 278 (see also Yaśomitra's comment on this section). For the Vaibhāṣika critique of the 'seed' theory, see *Abhidharma-dīpa*, and the commentary, pp. 220-5.

[2]See *Yogācārabhūmi*, p. 11. *Citta*, *manas*, and *vijñāna* are usually taken to be synonymous in the Sarvāstivāda school. Compare Ghoṣaka's comment in *Abhidharmāmṛta : Cittaṃ mano vijñānaṃ ity anarthāntaraṃ / niruktāv evāntaram/* p. 55.

[3]See *Yogācārabhūmi : Manaḥ katamat/yat ṣaṇṇām api vijñānakāyānām anantaraniruddhaṃ kliṣṭaṃ ca mano yan nityam avidyātmadṛṣṭyasmimānatṛṣṇālakṣaṇaiś caturbhiḥ kleśaiḥ samprayuktam//* p. 11.

[4]Cf. Vasubandhu's *Triṃśikā : Tatrālayākhyaṃ vijñānaṃ vipākaḥ sarvabījakam/* verse 2cd.

The Sautrāntika School: bīja (seed) and vipāka (maturity)

A few historical comments on the origin of the Sautrāntika school and its relation to the Yogācāra school will be pertinent here. The Sautrāntika school might have originated some time in the second half of the first century A.D. (with Dharmatrāta). It was definitely an established school in the third century A.D. with such exponents as Śrīlāta. Both the Pāli and the Sanskrit accounts agree that this school branched off from the old Sarvāstivāda school and it was the last of the eighteen Nikāyas.[1] The very name 'Sautrāntika' indicates that this school emphasized the authority of the Sūtras over the Abhidharma.[2] Vasumitra noted the other name of this school as *saṃkrāntivāda.* This name is explained with recourse to its special doctrine of transmigration. This doctrine holds that the *skandhas* transmigrate (i.e., are transferred) from one existence to the other.[3] This special 'transmigration' doctrine was further developed into the doctrine of 'seed' *bīja*, and a discussion of this *bīja* doctrine is to be found in Vasubandhu's work and Yaśomitra's commentary.[4] It has been suggested (e.g., by J. Masuda, p. 66) that the above Sautrāntika doctrine was probably the outcome of the criticism of the *pudgala* doctrine (of the Vātsīputrīyas) by the Sarvāstivādins and the early Mahiśāsakas. The Sarvāstivādins and the early Mahīśāsakas maintained the theory of perpetual flux of all *saṃskāras.* The Vātsīputrīyas, on the other hand, held that some *saṃskāra* are momentary while others can persist for some time.[5] They also held that *dharmas* can transmigrate (cf. *saṃkānti*) from one existence to the other only along with the *pudgala,* not by themselves.

The Sarvāstivādins and the early Mahīśāsakas protested and claimed that no *dharmas* can, in fact, transmigrate, since they are momentary. In this context, I think, the Sautrāntikas argued that the *skandhas* transmigrate. J. Masuda has conjectured that

[1]The Sanskrit source is supplied chiefly by Vasumitra's treatises. The Pāli sources are *Kathāvatthu, Dīpavaṃsa* etc. See J. Masuda, p. 66.

[2]Cf. Yaśomitra's comment in *Sphuṭārthā : kaḥ Sautrāntikārthaḥ/ye sūtraprāmāṇikā na śāstraprāmāṇikās te Sautrāntikāḥ//*p. 11.

[3]See J. Masuda, p. 66.

[4]See Vasubandhu and Yaśomitra under *Abhidharmakośa*, verses II/36 and V/2a.

[5]See J. Masuda, p. 54.

the 'skandha' here probably meant, as the Chinese commentator once interpreted, the 'seed' *bīja*, or perhaps, it meant what the Sautrāntikas called *ekarasa-skandha*. The Sautrāntika idea of the *ekarasa-skandha* was interpreted in the Chinese commentary as the "subtle consciousness," and Masuda thinks that this might be due to an influence of the Mahāsāṃghikas.[1] In any case, the idea of 'subtle consciousness' must have found its way in the Yogācāra idea of *ālayavijñāna*, as did the idea of 'seed' *bīja*.

The 'seed' theory, in plain language, means that the past passions leave behind their seeds in subtle forms which possess the power to produce new passions. In this way the causal chain is to be maintained. This theory was severely criticized by the Vaibhāṣikas.[2] However, there were undoubtedly several 'unconscious' states in the *santāna* or consciousness series where the Buddhist faced the problem of explaining the causal continuity between the immediately preceding *vijñāna* 'consciousness moment' and the new 'waking' *vijñāna* following such a state. For example, there may be a (i) seizure or swoon (*mūrccha*) or (ii) a state of extreme inaction (*middha*); or, there may be (iii) meditational cessation of the 'ego-shrunk' mind-stream or (iv) some other 'higher order' meditational cessation (cf., *nirodha-samāpatti*, etc.).

The Vaibhāṣikas explain that the causal precedent of the 'waking' *vijñāna* is the *vijñāna* immediately preceding such an 'unconscious' state. However, this called for some modification in the usual definition of the 'causal precedent' (cf. *samanantara*). Ordinarily, there should not be intervention of any moment between the causal precedent and its resultant *vijñāna*. But the Vaibhāṣikas interpreted 'non-intervention' in this context as the 'non-intervention by a *sajātīya* (similar) moment'. Since the 'unconscious' states described above do not involve any consciousness moment, the said problem is thus avoided.

In the Yogācāra system, however, with the introduction of *ālayavijñāna* it was easy to explain the causal sequence satisfactorily. The flow of *ālayavijñāna* continues in all the above-mentioned states. All *vijñānas* leave behind their residual 'seeds', which await their respective 'maturities' (*vipāka*) to generate further *vijñānas*. Thus, in the immediately preceding moment of

[1]Ibid., pp. 66-69.
[2]See note 1 above, p. 337.

any one of the 'unconscious' states described above, all *vijñānas* dissolve into *manovijñāna*, which, in turn, dissolves into *ālaya-vijñāna* retaining the results (*phala*) in the form of 'seeds'. The 'waking' consciousness arises out of one of these maturing 'seeds'. Thus, the *ālayavijñāna* is called the locus of the 'seeds' of all *vijñānas*.[1]

The causal continuum in Saṃsāra transmigration

In Asaṅga's Yogācāra system, *ālayavijñāna* became almost the central concept. Thus, Sthiramati asserted that, because of the presence of *ālayavijñāna*, transmigration (*saṃsāra*) and its cessation (*nirvāṇa*) could become possible.[2] The implication is that without resorting to the notion of *ālayavijñāna* it would be difficult to explain the causal chain in birth and re-birth as well as the causal sequence in the attainment of *nirvāṇa*. In this way, *ālayavijñāna* rose to a unique prominence, which we shall see next.

The perpetuation of existence is usually explained in Buddhism by the causal chain with twelve members, which is known as the *dvādaśāṅga-pratītyasamutpāda* (See §4.8). In this causal chain each succeeding member arises with the preceding member as its 'condition' (*pratyaya*). *Vijñāna* is the third member (in this chain) which comes after *saṃskāra*, i.e., 'traces' of action in the former birth, which in turn depends upon *avidyā*, i.e., wrong beliefs or wrong tendencies. After *vijñāna*, comes *nāma rūpa*, the formation of the mind-body complex, i.e., the five 'personality'-aggregates, at the time of conception in the womb. The *nāma rūpa* gives way to the six sense organs and so on until rebirth and old age and death in the next birth.[3]

Sthiramati claims that the third member in this causal chain, *vijñāna*, is nothing but *ālayavijñāna*. The Vaibhāṣikas explain it as the *pratisandhi-vijñāna*, which is interpreted as the five 'personality' aggregates just at the moment of conception.[4] It is called *vijñāna* 'consciousness' only in a metaphorical sense. Even if we ignore

[1]Cf. *Yogācārabhūmi : Sarvabījakam āśrayopādāt vipākasaṃgṛhītam ālaya-vijñānaṃ bījāśrayaḥ*/p. 4.

[2]See Sthiramati under *Triṃśikā* pp. 37-39.

[3]The twelve members in the causal chain of transmigration are the following: *avidyā, saṃskāra/ vijñāna, nāmarūpa, ṣaḍāyatana, sparśa, vedanā, tṛṣṇā, bhava/ jāti, jarāmaraṇa*. For the Sarvāstivāda explanation of this chain, see Vasubandhu under *Abhidharmakośa* verses III/19-28, pp. 121-40.

[4]Cf. Vasubandhu's remark : *mātuḥ kukṣau pratisandhikṣaṇe pañcaskandhā vijñānam*/p. 131 (*Abhidharmakośabhāṣya*).

the metaphorical sense and consider it simply as the 'consciousness aggregate' (*vijñāna-skandha*) at the moment of conception, it will be difficult to explain how 'traces' of the former birth (cf. *saṃskāra*) can give rise to such a consciousness aggregate at the time of conception. The 'traces' from a former birth are not stable, and hence, will cease long before the time of conception. And something which has ceased to exist becomes non-existent, and hence, cannot be a *pratyaya*, 'causal condition'.

Besides, at the moment of conception the mind-body complex is also to appear. If the 'traces' give rise to 'consciousness' *vijñāna* (at the time of conception) they should likewise give rise to the 'mind-body' complex at that time. If *nāma rūpa* is interpreted as the 'mind-body' complex of the succeeding stage arising after the *pratisandhi-vijñāna* (*vijñāna* belonging to the 'conception' time, the moment of conception), how does this stage differ from its previous stage (i.e., the 'conception' time) when the 'consciousness aggregate' is there along with the 'mind-body' complex (*pañca-skandhāḥ* five aggregates)? In fact, if the initial 'mind-body' complex including the 'consciousness aggregate' arises depending upon the 'traces' we do not need to posit *vijñāna*, the third member in the causal chain, as intervening between *saṃskāra* 'traces' and the *nāma rūpa*. Thus, Sthiramati argues that to maintain consistency and retain the 'twelvefold' causal chain of Buddhism, we need to assume *ālayavijñāna* as that subterranean stream of consciousness where the 'traces' or 'forces' leave their 'seeds'. The causal chain can now be explained as follows : 'Wrong belief' (*avidyā*) conditions the appearance of 'traces' or 'forces', and the 'traces' condition the stream of the 'seeded' *ālayavijñāna*, and when the 'seeds' reach maturity (*vipāka*) the 'mind-body' complex arises. The same flow of the seeded *ālayavijñāna* starts other continuous activities in a similar manner at the end of such 'unconscious' states as *nirodha-samāpatti* (described above).[1]

Sthiramati further argues that without resorting to the *ālaya-vijñāna* doctrine it would be difficult to explain the process of cessation in *nirvāṇa*. His arguments can be briefly stated as follows. Perpetuation of existence (or *saṃsāra*) is due mainly to what is known as *kleśa* 'mental blemishes' or 'passions', such as, attach-

[1]See Sthiramati under *Triṃśikā* verse 16 Cf. *Evam āsaṃjñikādiṣu manovijñāne niruddhe tadapagame punaḥ kuta utpadyate yat tasya kālakriyā na bhavati | tat punar ālayavijñānād evotpadyate | tad hi sarvavijñānabījakamiti* p. 35.

ment (*rāga*) and ego-sense, and secondarily to *karma* (action) Since action by itself cannot condition the future existence unless it is engineered by *kleśas*, we have to consider *kleśa* to be the root (*mūla*) of *saṃsāra*. Thus, only with the cessation of *kleśa* 'mental blemishes', the 'forces' leading to the future existence will cease to operate. Now, a *kleśa* may be in the process of taking its course, or it may exist in the form of a 'seed' Only the 'seed' form of a *kleśa* can be destroyed by an opposite mental state (*pratipakṣa-citta*), other *kleśas* must take their courses in order to generate further *kleśas* and action. Now, the seed of a *kleśa* must be located in consciousness, and this locus must be the *ālayavijñāna*, the subterranean consciousness. Otherwise, to make the destruction of the seed possible, we have to admit the impossible situation that the same 'mental' state or the state of consciousness (i.e., the *pratipakṣa-citta*) acts as the locus of the seed and at the same time brings about its destruction. Thus, the *ālayavijñāna* doctrine solves the problem of the locus and explains the causal process in obtaining *nirvāṇa*. Sthiramati informs that a detailed discussion of transmigration and its cessation with the help of the *ālayavijñāna* doctrine can be found in the *Pañcaskandhaka*.[1]

Ālayavijñāna, Tathāgatagarbha and āśrayaparāvṛtti

Apart from the *pudgala* controversy, there was another stream in early Buddhism which recognized an absolute spiritual principle existing in every being. In Mahāyāna, this was usually called the *garbha* theory which we find expounded in the *Ratnagotravibhāga*. An unidentified prākṛt verse[2] sums up the *garbha* as follows :

> *Yathā pattharacuṇṇamhi jātarūpaṃ na dissati/*
> *parikammeṇa tad diṭṭhaṃ evaṃ loke tathāgata//*

This means that the Tathāgata lives invisibly in living beings like pure gold in stones and sands and by purification it becomes visible. Such numerous comparisons of the Tathāgata with pure gold, with an impenetrable diamond, and with the immutable

[1]Ibid p. 39. This was probably a work of Vasubandhu translated by Hueng Tsang into Chinese, and Sthiramati probably summarized the book under the same title (Sylvan Levi).

[2]E.H. Johnston described it as a Prakṛt verse. J. Takasaki mentions it as a Pāli verse.

gem, point to the positive aspect of this spiritual principle. In the Yogācāra school, the *Tathāgatagarbha* doctrine became connected with the *ālayavijñāna* doctrine in a very interesting manner, which we shall presently see.

As a critique of the *niḥsvabhāvatā* doctrine of the *Prajñāpāramitā* the *Sandhinirmocana-sūtra* established the *tri-svabhāvatā* doctrine and the *ālayavijñāna.*[1] The *Ratnagotravibhāga* expounded the *garbha* theory also as a criticism of the *śūnyatā* or *niḥsvabhāvatā* 'emptiness' doctrine. Thus, comparison between the *garbha* doctrine and the *ālayavijñāna* was obvious and natural. Besides, there was undoubtedly mutual influence in the development of both doctrines. J. Takasaki has collected important references to the confusion and the later amalgamation of these two doctrines. Special mention may be made of the *Laṅkāvatāra-sūtra*, Chap. VI, where the *Tathāgatagarbha* has been identified with the *ālayavijñāna.* I think that these two doctrines were connected even in their origin. Thus, in the *Mahāyānasūtrālaṅkāra*, Chap. IX, we find an early fusion of the two. And this must have influenced the later Yogācārins like Vasubandhu and Sthiramati. The following verse from the (Mahāyāna) *Abhidharma-sūtra* is quoted in both the places : in the *Ratnagotravibhāga* to justify the *garbha* doctrine and in the *Triṃśikā-bhāṣya* to justify the *ālayavijñāna* :

Anādikāliko dhātuḥ sarvadharmasamāśrayaḥ/
tasmin sati gatiḥ sarvā nirvāṇādhigamo'pi vā//

"It is the beginningless *dhātu* and the locus of all dharmas, all causal sequence results from it, even realization of *nirvāṇa* is due to it."[2]

It should also be noted that the Sautrāntika 'seed' theory might have played some part in connecting the *ālaya* doctrine with the *garbha* doctrine. Some element of the 'good' is said to persist through the series of existence. This Sautrāntika idea of a subtle and incorruptible *kuśala-mūla* 'root of good action' is strikingly similar to the Mahāyāna *garbha* theory. The incorruptible element of the good to be found in every being corresponds, as P. Jaini rightly conjectures, to the 'seed of salvation', *mokṣa-*

[1]*Sandhinirmocana-sūtra*, Chap. VI, 4-6 (E. Lamotte's translation) pp. 60-65 See above § 3.3.

[2]See J. Takasaki, pp. 40-45.

bīja which we find in later writings. Yaśomitra quotes the following significant verse where the Buddha compares the 'seed of freedom' with a seam of gold hidden in a mineral rock.[1]

> *Mokṣa-bījam ahaṃ hy asya susūkṣmam upalakṣaye |*
> *dhātupāṣāṇavivare nilīnam iva kāñcanam ||*

"I notice the extremely subtle seed of freedom of this man hidden (in him) like gold in the vein of a mineral rock."

This saying is associated with one of the ten powers of the Buddha (for which he was called *daśabala*) viz., the power to realize the pure and indestructible element, the *dhātu* or the *gotra* or the *bīja*, of every being. Thus, in many contexts '*gotra*', '*dhātu*' and '*bīja*' were interchangeably used. In Yogācāra, this pure element was called the *prakṛti-prabhāsvara-citta* 'mind which is essentially pure and translucent'. And this was further identified with the *tathatā*.[2]

The flow of *ālayavijñāna* continues until *nirvāṇa*.[3] But, if the *ālaya* doctrine is to be brought closer to the Absolutism of the *tathatā*, we have to investigate the state of *ālayavijñāna* at the realization of *nirvāṇa*. The *Triṃśikā* says that in *nirvāṇa* this subterranean base (the *ālaya*) 'returns to itself', resulting in a transcendental (*lokottara*), non-conceptual (*nirvikalpa*)-*jñāna*. And this 'returning to itself' happens at the removal of the two types of *dauṣṭhulya* 'blemishes' ('turbulence'—S. Levi; 'Verderbtheit—E. Frauwallner) or two types of coverings (cf. *vṛti* in *Mahāyānasūtrālaṅkāra*. p. 35).[4]

The key-terms to be investigated in this connection are *āśraya-parāvṛtti* and *āśraya-parivṛtti* (see Takasaki for references, pp. 40-45). In the *Mahāyānasūtrālaṅkāra*, they are often used interchangeably. E. H. Johnston noted (p. xii) a difference between the *garbha* and the *ālaya* doctrines reflected in this difference in terms. In the latter, the *āśraya* or *ālayavijñāna* returns to itself in *nirvāṇa*, while in the former, as the pure *tathatā* is freed from the sheaths of *kleśas* in *nirvāṇa* (compare Sthiramati's explanation of the process of *nirvāṇa* given above), a

[1]Yaśomitra quotes the whole episode along with this verse. For P. S. Jaini's comment, see his *Introduction*, pp. 115-6.

[2]Cf. *Triṃśikā*, verses 29, 30.

[3]ibid verse 5a : *tasya vyāvṛttir arhatve.*

[4]See Sthiramati under *Triṃśikā* verse 29.

metamorphosis of the *āśraya* takes place. I would note that this kind of distinction was not always maintained in the literature. There is, indeed, an obvious and essential similarity between the two doctrines. Thus, in Sthiramati's explanation of *ālayavijñāna*, the notion *parivṛtti* 'metamorphosis' seems to have been assimilated with *parāvṛtti* 'returning to itself'. Thus, in short, at *nirvāṇa* the *vijñāna* becomes *jñāna*, and it is called the *anāsrava dhātu* 'incorruptible element' (cf. *Triṃśikā*, verse 30), and the *āsrava-kṣaya* or *vimalāśraya* (cf. *Ratnagotravibhāga*, I, 44).

It should also be noted that the above view is consistent with the 'triple nature' doctrine of reality (cf. *tri-svabhāvatā*) of the Asaṅga school. The *Sandhinirmocana* speaks of the triple aspect of the reality as opposed to its emptiness: the dependent (*paratantra*) aspect, the imagined (*parikalpita*) aspect and the perfected aspect (*pariniṣpanna*). This doctrine is explained with the help of an illustration of a crystal ball appearing red due to its proximity to a red object. The red appearance is called the imagined aspect, and the red crystal ball is the dependent aspect. The perfected aspect is the crystal ball itself when considered independently of its red appearance, the imagined aspect. Thus, the doctrine says that the 'dependent' nature is empty of the imagined nature and it is the 'dependent' nature which turns into the 'perfected' nature when the 'imagined' nature wipes itself out.[1] Thus, the *ālayavijñāna* turns into the 'perfected' *jñāna* when the 'blemishes' wipe out themselves.

The *garbha* theory, despite obvious dissimilarities, was no doubt, influenced by the Upaniṣadic Absolutism, and it might have influenced, in turn, the *ajātivāda* 'the doctrine of non-origination' of Gauḍapāda. The significant term '*ajāti*' occurs at least twice in the *Ratnagotravibhāga*.[2] Now, if the *ālaya* doctrine is identified with the *garbha* doctrine, it will be easy to confuse the *ālaya* with the 'soul' of the Brāhmaṇas. This might have been the reason why the Diṅnāga school of Yogācāra ignored the *ālaya* doctrine.

[1]See *Sandhinirmocana-sūtra*, Chap. IV. Cf. *Tatra guṇākara nimittasambaddhanāmāni niśritya parikalpitalakṣaṇaṃ prajñāyate| paratantralakṣaṇe parikalpitalakṣaṇābhiniveśaṃ niśritya paratantralakṣaṇaṃ prajñāyate || paratantralakṣaṇe parikalpitalakṣaṇābhiniveśābhāvaṃ niśritya pariniṣpannalakṣaṇaṃ prajñāyate |* p. 63 (E. Lamotte's translation). See above § 3.3.

[2]See pp. 12. 47.

In the Upaniṣads, the 'soul' is to be finally realized as the Brahman, the non-dual reality, the Absolute. The *Triṃśikā* says that when the *ālaya* returns to itself it becomes the *dharmakāya* of the Buddha, the 'non-dual' (*advaya*) principle, the Absolute.[1] But the important difference between the two principles (although both are called Absolute) should not be overlooked. The 'soul' is the static, unchanging and all-pervading substance; it is called *nitya* 'eternal'. The *ālaya*, on the other hand, is the ever-changing dynamic 'link' like the subterranean current of water in the ocean; the *Triṃśikā* calls it *dhruva* 'an ever-changing constant' (verse 30). It is the ever-changing ever-lastingness. (Compare *kūṭasthanityatā* and *pariṇāminityatā* of the later philosophical literature). Thus, the warning comes from the *Sandhi-nirmocana-sūtra*.[2] (The Buddha says:)

> *ādānavijñānagabhīrasūkṣmo ogho yathā vartati sarvabījo/*
> *bālā eṣām api na prakāśite mohaiva ātmā parikalpayeyuḥ//*
>
> "the 'receptacle' consciousness is the locus of all seeds, deep and subtle like the ocean. I have not revealed this notion lest fools construe this as the 'soul' out of confusion."

Duḥkha and Nirvāṇa

These two are admittedly bewildering concepts for us moderners to understand. F. Kafka once said:

> "The scriptures are unalterable and the comments often enough merely express the commentator's bewilderments."

It is well-known that the doctrine of *duḥkha* or universal suffering is an essential part of the central teaching of the Buddha. The four Noble Truths taught by the Buddha are: *duḥkha* (suffering, pain, anguish), origin or cause of suffering, cessation of suffering, and the Way. The *Yogasūtras* also talk of a similar model, which shows that the model was not simply unique to Buddhism. Vyāsa for example, says while commenting upon *Yogasūtras* 2:15:[3]

[1]The sense of 'Absolute' that I have in mind here is usually expressed in Sanskrit by such expressions as '*advaya-tattva*', '*anapekṣatva*', '*svatantratva*' and '*tathatā*.'

[2]This verse is quoted in the commentary of Sthiramati on *Triṃśikā*; see p. 34.

[3]Yogasūtras 2.15.

> Just as the medical science is a system of four items—disease or sickness, causes of sickness, health (cessation of sickness), and the medicine to cure, this *śastra* is likewise a system of four: *saṃsāra* (suffering in the form of repetitious rebirth), causes of *saṃsāra*, its cessation (freedom) and the means for achieving the state of freedom.

The model was obviously borrowed from the therapeutics of the medical science. Most religious/philosophical systems of ancient India agree that the world, as it is, is nothing but *duḥkha* or suffering, and each *darśana* (philosophical world view) presents a Way (a prescription!) to avoid or transcend this *duḥkha*.

Now I shall express one by one my reasons for bewilderment as a commentator. First, what is *duḥkha*? What is so unique about suffering and pain that it should be given the status of the first Noble Truth? If *duḥkha* was the common suffering of humanity (physical or psychological), then why do we need a Buddha to discover this truth for us? A.C. Danto has used his ingenuity to answer this question as follows:[1]

> Everyone in a way knows the first Noble Truth, but it took a virtual act of genius to see it as the sort of truth that the Buddha did. Everyone suffers. But not everyone knows that he suffers...What the Buddha recognized is that knowledge of fact can be a step towards its mitigation. The first, and in some ways the hardest, step for a certain sort of sick man to make is towards the knowledge that he *is* sick.

This answer does not seem satisfactory to me.[2] For, I think, it smacks too much of a modern Freudean psychoanalytic model. I shall raise another set of questions. Why should everything be regarded as *duḥkha*? Why should even the happy moments or experience be called suffering or *duḥkha*?

In the Buddhist texts, such as, the *Visuddhimagga*, three different aspects of *duḥkha* are mentioned. The first is called *duḥkha-duḥkha* under which all ordinarily unpleasant things and unhappy mental states are classified. The second group, called *vipariṇāma-duḥkha*, includes every transitory object, even pleasant

[1]Danto, A.C. *Mysticism and Morality*., p. 68

[2]See for my own approach to the problem of *duḥkha*, *Logical and Ethical in Religious Belief*, Calcutta, 1983, ch. 1.

things and happy feelings. They are called *duḥkha*, for, they change and decay and do not stay long enough to impart happiness. At this level impermanence and *duḥkha* become co-extensive concepts. The third type of *duḥkha* is called *saṁskāra-duḥkha*, the most pervasive type of unhappiness. It is the realization of the essentially conditioned nature of our existence. Our entire psychosomatic existence is called suffering from this point of view. For, to a man with wisdom, it appears to be a self-perpetuating imprisoned state dotted by craving drive for pleasure, the agony of search, dissatisfaction and further craving happening in cyclic order. In *Yogasūtra* 2:15, where it is declared that to a person with discernment everything is *duḥkha*, a similar threefold classification of suffering has been made. It is interesting to see that the *saṁskāra-duḥkha* is regarded there also as the most pervasive concept.

Duḥkha is sometimes explained by the modern Buddhist scholars as a mental state born out of, probably, frustration due to the transcience of objects of our craving. If this is accepted, *sukha* or happiness can also be deemed as *duḥkha*. But however, I think, such an Interpretation refers only to the second category of *duḥkha* mentioned above. Danto's characterization (see above) of *duḥkha* as a profound realization fits well in such a second level interpretation of *duḥkha*. An adequate explanation of the notion of *duḥkha* requires us to reach the third level—the notion of *saṁskāra-duḥkha*. An adequate explanation of *duḥkha* must encompass an adequate explanation of *nirvāṇa*, both constitute a whole, and thus one cannot be understood or explained independently of the other.

Duḥkha, as the first Noble Truth, is thus neither physical suffering nor mental frustration, nor is it simply the obsession (or a state of paranoia) with the uncontrollable transcience of our pleasures. It is a profound awareness—a realization that our existence is necessarily conditioned; *saṃsāra* is a prison-house. Cessation of *duḥkha* implies that unconditioned state of freedom called *nirvāṇa*. The remark just made about *nirvāṇa* brings our discussion closer to an ago-old controversy. I am sure I shall be criticized by others for giving, perhaps inadvertently, a positive characterization of *nirvāṇa*. Let us formulate the controversy and see what lesson, philosophic lesson to be sure, may we derive from this controversy.

Is *nirvāṇa*, the *nirodha-satya*, a positive state or a negative state? I shall show, at least from one point of view, that any one who formulates such a question is already a guilty party. For, the Buddha himself would have forbidden us to formulate such questions. This is indeed implied by the Buddha's treatment of the *avyākṛta* questions. Most Buddhist texts would say that *nirvāṇa* is neither positive nor negative, and that we do not have to decide this question at all. But the matter does not really end there as testified by the controversy for over two thousand years? I shall divide the issue roughly into three components.

First, we have to face the logical problem. We shall have to decide whether the description "neither positive nor negative" makes any real sense. If "positive" and "negative" are regarded as contradictory pairs, then we shall have to sacrifice at least the law of the Excluded Middle in order to allow "neither positive nor negative" as a feasible characterization of *nirvāṇa*. And this will require, as I have already argued, a modification in our standard or classical notion of negation. But, perhaps, this is not an odd claim, for we have come to recognize multiple-valued logical systems where the problem of redefining negation has been successfully tackled (§ 2.3).

We face a further logical problem when it is denied emphatically that *nirvāṇa* is nothingness or mere negation. For, such denial usually implies that *nirvāṇa* is something. We are, in fact, led into the second, i.e., ontological problem, in this way. *Nirvāṇa* may be posited as an ontological reality even if we disallow its characterization as either positive or negative. Or, to put the matter in another way, *nirvāṇa* can be said to be an ineffable reality which transcends (in the sense of 'surpass') the process of categorization as positive or negative. To a good Buddhist, even this position will be unsatisfactory. For *nirvāṇa* is usually regarded as the deontologizing of the self. It is hard to see how such a concept can be claimed to be an ontological reality. As a good Buddhist would do, I would advise everyone to resist all such attempts at the ontological reduction of *nirvāṇa*.

The third problem can best be called "the Theological Problem". This problem arises if we regard, as we must under certain circumstances, Buddhism to be a religion. While I am fully aware that there is no *theos* in Buddhism, I use the term

"theological" on the basis of what I venture to call the process of extrapolation. If Buddhism is a religion, it must share some common feature that is supposed to characterize religion in general. Man's religious belief seems to be founded upon the assumption that our earthly existence, our *duḥkha* experience, is not all that there is. For, there must be another, a better mode of existence, a possible cessation of the perpetual *duḥkha* experience. Religion in this sense seems to be born out of man's resentment against the existing state of affairs and yearning for something different. Modern historians of religion agree that there is, in almost every religion, an implicit distinction of the sacred and the profane. Using a very liberal interpretation, one can say that Buddhism as a religion implies a provisional distinction between *duḥkha* and its *nirodha* (cessation), between *saṃsāra* and *nirvāṇa*. To put it in another way, our *duḥkha* existence, which is conditioned existence, gains its meaning and significance only when viewed against the backdrop of the unconditioned *nirvāṇa*.

If Buddhism is a religion, we can posit *nirvāṇa* as the intended or intentional object of the Buddhist Way, the Buddhist religious practices or the eightfold path. The intentional object need not be an ontological entity (F. Brentano called it 'intentional inexistence') much in the same way "unicorn" need not refer to an ontological entity in the expression "he is hunting a unicorn". Notice that with regard to such intentional objects, there is a sense in which one can say that the question of their being existent or non-existent, positive or negative, *bhāva* or *abhāva*, does not arise. This seems to me a less mystical interpretation of *nirvāṇa*, for, we can thus make good sense of the essential doctrine of the Buddha, the four Noble Truths, or the eightfold path. The Buddhist religious practices, meditation, etc. may thus be viewed as being aimed at the intentional goal, *nirvāṇa*, that does not actually exist. There is a distinction between our thinking (meditating about *nirvāṇa* or cessation of *duḥkha*) and our thinking about nothing. In the former case we are intentionally related to an object (which happens to be an intentional object that does not exist), in the latter case we are not. In the first case we have a thought (which may be meant for "killing all thoughts"), in the second case we have none. And it is a

characteristic of our intentional attitudes that they are, more often than not, directed towards non-actual objects.

I make the above comment in full awareness of the fact that Nāgārjuna examined and rejected the concept of four Noble Truths and *nirvāṇa* in *Mādhyamika-Kārikā*, chs. 24 and 25. Buddhism, as it is reflected in the emptiness doctrine of Nāgārjuna, appears to me not as religion but a philosophy of religion. And, as a good Buddhist would do, I would wholeheartedly accept Nāgārjuna's philosophic interpretation. However my above comment is conditional upon our acceptance of Buddhism as a religious tradition.

§ 4.8 : Transmigration and the Moral Enigma of Karma

The doctrine of transmigration is peculiar to India's religious philosophy. It is a common doctrine shared by Hinduism, Buddhism and Jainism, though each gave its own explanation of the doctrine to make it consistent with its particular metaphysical belief-system. There were different ramifications of this doctrine in each sub-school, as I have already indicated with reference to Buddhism (§ 4.7). From Hinduism I shall choose the Nyāya system, and discuss its theory of transmigration in order to compare it with that of Buddhism.

It is rather unfortunate that we usually render the Indian term *saṃsāra* by the English word "transmigration". Even the phrase "causal chain", when applied in the context of a Buddhist theory, shares, to some extent, this quandary. *The Shorter Oxford English Dictionary* explains "transmigration" as "transition from one state or condition to another; *esp.* passage from this life, by death", and as "passage of the soul at the death into another body; metempsychosis."[1] Although the latter meaning can be acceptable in some non-Buddhist (Vedic) theories of *saṃsāra*, it is obviously false in the Buddhist theory. The former meaning is, however, vague enough to be a tolerable equivalent of the Buddhist idea of *saṃsāra*.

The Buddhist explains "transmigration" as simply the con-

[1] *The Shortet Oxford English Dictionary* on *Historical Principles*, revised and edited by C.T. Orions 3rd ed., (Oxford:Oxford Clarendon Press, 1955). The third and the fourth meanings are cited.

tinuous succession of one state by another without resorting to the notion of a transmigrating soul or a persisting link running through these fluctuating stages. Here we meet the obvious analogy of a river-stream, a continuum without a persisting entity.[1] The philosophical (ontological) consequences of such a theory were very important and interesting, but we shall not go into them here in any detail. Briefly, the conclusions are : there are only ever-fluctuating states but no enduring substance; there is motion from one life-stage to another, but nothing that moves from one to the other. Thus, perpetuation of personal life was explained in early Buddhism as well as in its various later ramifications in terms of *pratyayas* "causal conditions" forming a chain called the twelve-membered 'dependent origination' theory (*dvādaśāṅga-pratītyasamutpāda-vāda*). I wish to make two comments here. First, the *karma* doctrine, which was so much ingrained in most philosophical schools of ancient India, underwent a singular systematization in early Buddhism. I shall argue that the *karma* doctrine was initially an alternative to fatalism or determinism (cf. the doctrine of the Ājīvakas) on the one hand and theism (all-powerful God as the Creator and preserver of the universe) on the other.[2] Later on, the *Karma* doctrine was combined with theism and as a result, we have such Vedic philosophical systems as the Nyāya-Vaiśeṣika and the religious systems like Śaivism and Vaiṣṇavism. My second comment is that although a "Vedic" system like the Nyāya-Vaiśeṣika became theistic at a certain stage of its development and, unlike Buddhism, admitted the notion of a soul perpetuating through different lives or existences, its interpretation of *saṃsāra* "transmigration" based on the *karma* doctrine was not much removed from the basic idea of a causal chain of several members where one member depends upon the other for its origin. Curiously enough, the notion of God did not play any part in the early Nyāya explanation of the *saṃsāra*.

I shall try to substantiate my second comment. In another place, I have tried to show that despite the early origin of theism in India, non-theism was a very dominant trend in the

[1]One is reminded of the old problem ascribed to Heracleitas : "you cannot bathe in the same river twice, for new waters are ever flowing in upon you".
[2]See below.

ancient Indian philosophical thought. All the Śramaṇa schools as well as some Brāhmaṇa schools like the Sāṁkhya and the Vaiśeṣika were atheistic in outlook. Here I shall assume that the early Nyāya was also not seriously interested in theism.[1] Thus, in its discussion of the process of transmigration, the early Nyāya paid all attention to the mechanical notion of *karma* and its residual forces.

To expose the structural similarity between the early Nyāya explanation of the problem of *saṃsāra* and the Buddhist explanation of the same, I shall first turn to the *Nyāyasūtras* of Gautama and Vātsyāyana's commentary. Then, for the representative Buddhist view, I shall draw from Vasubandhu's *Abhidharmakośabhāṣya,* although I am fully aware that different schools of Buddhism were hardly unanimous in their detailed interpretation of the Buddha's answer to the *saṃsāra* puzzle.

Nyāya doctrine of transmigration and causal chain

Nyāyasūtra 1.1.2 : Final release arises as the succeeding item disappears consecutively with the disappearance of the preceding item (in the following list) : 1. suffering, 2. birth, 3. motivational acts (or the merit and demerit derived from motivational acts), 4. evil dispositions, and 5. wrong conceptions.[2] Here we find a causal chain with five members or items, which are accountable for the perpetuation of life.

The first item is *duḥkha,* "suffering". This includes all the individual experiences of pleasure and pain. Each human experience is regarded as "painful" (and hence it is *duḥkha*), because we cannot have an experience of unmixed pleasure or joy. Even our most joyful moments are invariably shadowed by a feeling of pain. The Buddhists say both, (a) all feelings or experiences are suffering, and (b) attachment to experiences leads to *duḥkha,* because all things are *anitya.* And (b) is sometimes assigned as the ground for (a). Just as the Buddhist argues that all our experiences of pleasure and pain are, in fact, suffering mainly

[1]See D.H.H. Ingalls, "Human Effort versus God's Effort in the Early Nyāya *NS* 4.1.19-21", in *Dr. S.K. Belvalkar Felicitation Volume* (Banaras, 1957), p. 228-235. See also Gopinath Kaviraj 'Theism in Ancient India", in *Aspect of Indian Thought* (Burdwan, India, 1966), pp. 45-71. See my *Logical and Ethical Issues of Religious Belief,* Calcutta, 1982, Ch. 2.

[2]*Nyāyasūtra* (hereafter abbreviated as *NS*) 1.1.2 : *duḥkha-janma-pravṛtti-doṣamithyājñānānām uttarottarāpāye tad-anantarāpāyād apavargaḥ.*

because they are necessarily impermanent (*anitya*) and conditional. the early Nyāyā similarly argues that all our experiences are indistinguishable from suffering, because they fall short of the ideal of *pure* joy or happiness.

The ideal of joy or happiness, as envisaged here, is comparable with the logician's ideal of truth. The "ideal of truth" requires that if a true sentence or cognitive event is compounded truth-functionally with some falsehood, the resulting truth-functional compound is always false. The ideal of happiness or joy, as the Naiyāyika would formulate it, says that if an element of joy or pleasurable experience is mixed with an element of unhappiness or suffering, the resulting "whole" experience is to be declared as suffering. In fact, Nyāya makes a much stricter claim: all our factual experiences are somewhat like compounded wholes where at least a part will necessarily be painful, thus making the whole painful by the above general rule. It is the indispensability of the painful element from the "whole" individual experiences, rather than the conditionality of the experiences as was advocated by the Buddhists, that makes life-experience suffering, *duḥkha*. On the other hand, both the Buddhist *nirvāṇa* and the Nyāya *apavarga* can be translated as "cessation", and they are comparable in the sense that in both of them, cessation of the *duḥkha* "suffering" or painful experience is the ideal or goal. However, since in Buddhism there is no soul or personality, cessation of practical experience of suffering implies cessation of the false personality notion, but in Nyāya there is a permanent soul, and hence, cessation of life-experience means not only the end of the false personality notion, but also unimpeded continuation of real personality, i.e., self.[1]

The second item is *janma*, which means the process of birth and rebirth. This item, I think, is equivalent to the *pretyabhāva*, which is listed as one of the twelve *prameyas* "relevant items of study for the Nyāya system" in *Nyāyasūtra* 1.1.9. It is further explained as "rebirth" *punarutpatti* in *NS* 1.1.9. Vātsyāyana glosses over this as the cycle of life, death and rebirth (cf. *janmamaraṇa-prabandha*) under *NS* 1.1.19. In short, this item is the

[1]For the Nyāya ideal of happiness, consult *Nyāyabhāṣya* under *NS* 1.1.2 : "*Tad-yathā madhu-viṣa-saṃpṛktānnam anādeyam iti | evaṃ sukham duḥkhānuṣaktam anādeyam iti |*".

continuation of life process, which essentially conditions the previous item, viz., suffering.

The third item combines, *a la* Vātsyāyana, two principles, motivational acts and the residual merit and demerit derived from such motivational acts (cf. *dharma* and *a-dharma*). The motivational act can be of three types : those pertaining to body, those pertaining to mind, and those pertaining to speech. Examples of good and bad acts are respectively : protecting and killing, kindness and greed, and truthfulness and lying. The Nyāya ethics notes that good motivational act produces merit and bad act produces demerit.[1]

In *NS*. 1.1.9, where the list of twelve *prameyas* is supplied, the item *pravṛtti* is again mentioned, and in *NS* 1.1.17, this notion is explained as the above-mentioned three types of motivational act. Vātsyāyana, under *NS* 1.1.17, refers back to his interpretation of this term under *NS* 1.1.2.[2] Our point here is that the motivational act as well as the result derived from such acts is, in fact, the condition for the third item, continuation of life cycles.

One note on the conceptual translation of a technical terminology. Although Vātsyāyana describes the demerit and the merit as the causes of motivated acts rather than the results of them, I have preferred the above interpretative translation for the simple reason that merits and demerits in the Nyāya system are usually explained as residues of our motivational acts, which, in turn, give rise to further motivational acts, as the doctrine of *karma* suggests. In fact, this notion holds the key to the whole doctrine of transmigration or sequential succession of lives. I shall return to this notion in connection with my interpretation of the Buddhist theory.

The fourth item is *doṣa*, 'evil disposition'. This includes all our mental tendencies to produce evil. This is the motive force behind each motivational act. It is broadly classified as *rāga* "attachment" (to something) and *dveṣa* "aversion" (from something). Presumably this will be the wrong kind of attachment as well as the wrong kind of aversion, which will condition the

[1]*Nyāyabhāṣya* on *NS* 1.1.2 : "*seyaṃ pāpātmikā pravṛttir adharmāya / atha śubhā... / seyaṃ dharmāya /*".

[2]*Nyāyabhāṣya* on *NS* 1.1.17 : "*So' yam ārambhaḥ śarīreṇa vācā manasā ca puṇyaḥ pāpaś ca daśavidhaḥ / tad etat kṛtabhāṣyaṃ dvitīyasūtra iti /*".

motivational act, which, in turn, will perpetuate the cycle of life and rebirth. But why will attachment and aversion always be of the wrong kind ? The answer to this question brings us to the fifth item in the above list.

The fifth or the last item is *mithyājñāna*, "wrong conception". Since we have wrong conceptions of things (or reality), we are prone to be attached to the wrong thing and the evil, and averted from the right thing and the good. Our wrong conceptions, like the Buddhist *avidyā* or *anādi-vāsanā*, are ingrained in us from beginningless time, and this explains the continuation of birth and rebirth cycle from beginningless time. These wrong conceptions are, in a sense, self-perpetuating unless they are destroyed by perfect knowledge or knowledge of the things as they are (*tattvajñāna*). With the disappearance of wrong conceptions, the motive force or evil disposition (*doṣa*) disappears; with the disappearance of the motive force, motivational activity ceases, and with the cessation of motivational activity and the consequent exhausting bankruptcy of the fund of demerit and merit, rebirth cycle ceases and along with it our sufferings are put to a stop. Thus, this is like the old prescription of striking at the root in order to get rid of the growth of a poisonous tree—obviously reminiscent of a similar prescription of the "great physician" (*mahāvaidya*), the Buddha.

One of the fundamental wrong conceptions is called *ahaṃkāra*, misconception of the self or soul, in the Nyāya system. It consists in the wrong attribution of selfhood to things that are not self or soul. Thus, in *NS* 4.2.1, it is said that *ahaṃkāra* disappears at the appearance of the perfect knowledge with regard to the causes of the evil forces. This misconception of self is again said to be beginningless.[1]

But to call something beginningless is, I think, an indirect acknowledgement (or, should we say, "philosophic" acknowledgement ?) of the failure to answer the question of origin. The Buddhist gives almost the same answer to the question of the origin of *avidyā* "wrong conception" which is adduced to be at the root of suffering and the rebirth cycle (*saṃsāra*). If this is noted as a failure to answer, I would like to point out that those who have claimed to find a successful answer to the ques-

[1]*NS* 4.2.1: "*Doṣanimittānāṃ tattvajñānād ahaṃkāranivṛttiḥ* |"

tion of origin of everything by positing the notion of God's will and creation, and so on, have fared no better. In fact, instead of calling 'the wrong conception' beginningless, the Indian thinkers should, in fairness, have given a straightforward answer to the effect that this question about origin is unknown, and perhaps, unknowable.

To compensate for this weakness in their explanation, the Indian thinkers (Nyāya as well as the Buddhist) have developed the notion of a cyclic movement. The so-called causal chain is, in effect, a causal circle, the constituents of which mutually condition each other. The wrong conception conditions the life-experiences and the sufferings therefrom, and they, in turn, feed back the body of wrong conceptions. And in this way, the cyclic movement perpetuates by the procedure of output and feedback until it is stopped by the final release.

Buddhism's Twelve-linked Causal Chain

Let us now consider another exposition of the same *karma* doctrine found in a non-Vedic school, viz., early Buddhism. For the following discussion, I shall mainly draw materials from Vasubandhu's *Abhidharmakośa* (see also § 4.7.)

The twelve members of the causal chain as propounded by the Buddhist are, wrong conception (*avidyā*), residual forces (*saṃskāra*), consciousness (*vijñāna*) at the time of birth, name and visual form (*nāma rūpa*), six bases for six senses (*ṣaḍāyatana*), contact (*sparśa*), experience or feeling (*vedanā*), thirst or desire (*tṛṣṇā*), obtaining or means of obtaining (*upādāna*), life-process or action (*bhava*), rebirth (*jāti*) and "old age and death" (*jarā-maraṇa*). There is a relation of dependent origination among these twelve members. Each succeeding item originates depending upon the preceding item. This notion of "causal" dependence is to be interpreted very loosely as is well-evidenced by the Buddhist use of the term *pratyaya*. The "dependence" relation is, here, merely sequential, there being no essential causal connection between any. Here, then, is a possible contrast with the Nyāya system where causal relations are accepted as factual. But, nevertheless, I like to note here an often confused view that the Nyāya defines causal relation only in terms of essential connection and necessity. The Nyāya too, develops the notion of causal relation in terms of empirical determination. (See § 4.2).

The first two items in the above "causal" chain of the Buddhist pertain to the former birth, the last two to the future birth, while the rest in the middle pertain to the process in the present birth. Thus, Vasubandhu notes : "This is the birth-cycle which is beginningless; it is the (system of) dependent origination with twelve limbs (and) having three parts. Two belong to the former birth, two to the future birth; eight in the middle fulfil the present existence."[1]

Let us concentrate for the moment on the eight items in the middle. The first three in this group of eight, accounts for the formation of the mind-body complex, arising out of a pseudo-personality, which, I think, is comparable to the item called "birth" (*janma*) in the Nyāya scheme discussed above. The fourth item is intriguing and some interpreters found it difficult to explain. Vasubandhu interprets it as the "coming together" (*sannipāta*) or the togetherness of the triad, the consciousness series, the sense-organ (i.e., eye-organ) series, and the so-called object series (such as, the visual form for the eye-organ). This "togetherness" is conditioned by the formation of the mind-body complex, and it conditions, in turn, the experiences or feelings. To avoid any suggestion of a necessary causal connection, this fact should be better expressed as follows : when there is the formation of the mind-body complex, there arises togetherness, and when there is togetherness, there arise experiences (*vedanā*). Now, these experiences are bound to be bad experiences, since at the initial stage of causal chain we had "wrong conception" to begin with. Thus, when there are such experiences, there arises thirst or desire, comparable to the motive forces in the form of attachment and aversion in the Nyāya scheme. When there is this thirst or the driving force there arises motivational act, i.e., act to obtain (or to avert, as the case may be) the so-called object or the means of gratification (of desire). The last item *bhava* "life-activity" arises, when there is obtaining of the means of gratification.

[1]*Abhidharmakośa*.
Chap. III, Verses 19d, 20 : (Ed. Dwarikadas Śastri)
"ity anādi bhavacakrakam /19
sa pratītya-samutpādo dvādaśāṅgas trikāṇḍakaḥ /
pūrvāparāntayor dve dve madhye'ṣṭau paripūriṇaḥ //" 20

Vasubandhu describes all the twelve items as "limbs pertaining to some *avasthā* or state" (cf. *āvasthika*).[1] Yaśomitra explains that these twelve are, in fact, twelve different *states* of the personality series (i.e., series of the five personality aggregates).[2] Thus, in fact, the third item, consciousness, is said to refer to the stage of the "five aggregates" just at the time of conception in the mother's womb.[3] The fourth item, "name and visible form" (*nāma rūpa*) refers to the immediately succeeding stage of the same five personality-aggregates; "six bases" (*ṣaḍāyatana*) refers to the next succeeding stage; and "contact" (*sparśa*) to the next succeeding stage which precedes the stage called "experience" (*vedanā*) where experiences of pleasure and pain are possible.[4]

More intriguing is Vasubandhu's classification of the twelve items into three groups, viz., *kleśa* (defilement, evil dispositions), *karma* (action or motive forces derived as residues from previous action to generate further action), and *vastu* (=*phala*, "things" or "resulting process").[5] Wrong conception, thirst (or desire), and means of gratification (*upādāna*) are called *kleśa* "evil dispositions". This is obviously reminiscent of the Nyāya item *doṣa* "evil dispositions". Although in *NS* 1.1.2 "evil disposition" and "wrong conception" are separately mentioned (as has also been done in the Buddhist enumeration. viz., *avidyā* of the former birth, and "desire" and "means of gratification" in the present birth), under *NS* 1.1.18, Vātsyāyana clearly states that *doṣa* means the triplet, *rāga* "attachment", *dveṣa* "aversion" and *moha* "wrong ideas or conceptions". "Aversion" and "attach-

[1]ibid Chap. III, Verse 25 :
"*āvasthikaḥ kileṣṭo 'yaṃ prādhānyāt tv aṅgakīrtanam/*
pūrvaparāntamadhyeṣu saṃmohavinivṛttaye //" 25

[2]Yaśomitra, *Sphuṭārthā*, Vols. I-II (ed.) U. Woghihara (Tokyo, 1932-6), *evam āvasthikaḥ / dvādaśa pañcaskandhikā avasthā ityarthaḥ/*" p. 286

[3]*Abhidharmakośa*, Chap. III, Verse 21c : "*sandhiskandhās tu vijñānam*" The Yogācarin calls this item *ālayavijñāna*. See § 4.7.

[4]*Abhidharmakośa*, Chap. III, Verses 21d, 22 :
"*nāmarūpam ataḥ param /*"
prāk ṣaḍāyatanotpādāt, tat pūrvam trikasaṃgamāt /
sparśaḥ, prāk sukha-duḥkhādi-kāraṇajñānaśaktitaḥ/"

[5]Ibid., Verse 26 :
"*kleśās trīṇi dvayaṃ karma sapta vastu phalaṃ tathā /*
phala-hetv-abhisaṃkṣepo dvayor madhyānumānataḥ //"

ment" can easily be assimilated under the Buddhist category "desire", and *upādāna* technically refers to a very advanced stage of "desire", where "means of gratification" is being sought after. One should remember here Vasubandhu's general interpretation of all the twelve items : they are just different states or stages (cf. *āvasthika*).

Under the second group, *karma* is included in *saṃskāra* "residual forces (of the previous birth)", as well as *bhava* "life-activity" or the "residual forces" of the present life-activity. If the first group, the *kleśas*, can be described as passive forces, these two, i.e., the group of *karma*, may be said to be forces in action or forces derived from activity and then engendering further activity. The residual forces of the previous birth are found in a frozen form called *saṃskāra*. With regard to the present birth, we are concerned with both the acts and the residual forces derived from such acts to generate further acts. This notion is covered by the term *bhava*. One is again reminded of the Nyāya item *pravṛtti* which covers both motivational acts and the residual forces, such as, merit and demerit.

The third group, *vastu*, includes the remaining seven items. Five of them (*vijñāna*, *nāma rūpa*, *ṣaḍāyatana*, *sparśa* and *vedanā*) pertain to the present birth, viz., the five different *states* of the personality-aggregates (as described above) beginning from the time of conception in the mother's womb till the arising of "desire" (which is a *kleṣa*). The other two items (*jāti* and *jarā-maraṇa*) roughly cover the similar stages of the personality-aggregates partaining to the future birth. "Rebirth" (*jāti*) refers to the state of consciousness (*vijñāna*) at the time of birth, while "old age and death" refers to the other four stages, until the arising of "desire".[1] The members of these three groups, evil disposition (*kleśa*), action or residual force (*karma*), and "things" (*vastu*), mutually condition each other.[2]

[1] Ibid., Verse 24cd :
"pratisandhiḥ punar jāti, jarā-maraṇam āvidaḥ /
Yośomitra : *"āvidaḥ ā vedanāṅgāt / jarā-maraṇaṃ nāma-rūpādi-caturaṅga-svabhāvam/ vineyajanodvejanārtham bhagavatā jarāmaraṇaśabdena catvāri angāny uktāni/*" p. 285. See also § 4.7.

[2] *Abhidharmakośa* : Chap. III, verse 27 :
"Kleśat klesaḥ kriyā caiva tato vastu tataḥ punaḥ /".
vastu klesāś ca jāyante bhavāṅgānām ayaṃ nayaḥ//".

The Notion of Karma

The notion of *karma* or residual force holds the key to the understanding of the whole life-process. This seems to be essentially an Indian understanding. We act because the motive forces drive us to act, i.e., perpetrate motivational acts, and the results of our acts necessarily feed back those very motive forces leading to further acts and thus perpetuating the process of life, death and rebirth. Both the Vedic and the Buddhist schools agree on this basic notion. The cycle of birth and rebirth has been set in motion from beginningless time because of the beginningless *avidyā*, "wrong conception". The Buddhist also upholds the doctrine of beginningless *avidyā—avidyā* which is ingrained in us. The process of output and feedback in the *karma* machine is basically similar in both theories, Nyāya and Buddhism. Their major differences, however, have been pointed out before, and I need not go into them here.

There is another striking similarity of this sort between Nyāya and Buddhism. The well-known Buddhist doctrine of four "Noble" Truths (cf. *āryasatyāni*) has a parallel in Vātsyāyana's explanation of the Nyāya system. The four Truths are: 1 *duḥkha* "suffering", 2. *duḥkha-mūla* "conditions for suffering", 3. *duḥkha nirodha*, the cessation of suffering, and 4. *mārga*, the eightfold path leading to the cessation of suffering, or *nirvāṇa*. The group of four is the Buddha's therapeutics for the avoidance of suffering.

Vātsyāyana, perhaps keeping the Buddha's therapeutics in mind, described the four *arthapadas* "realities" or "footing of realities" of the Nyāya system: 1. *heya* "what is to be avoided" or "suffering" i.e., "future suffering" (cf. *anāgata duḥkha*), 2. *hāna* "avoidance of suffering", 3. *upāya* "means or way leading to such avoidance", 4. *adhigantavya* "the position to be achieved, i.e., the state of absolute freedom from suffering, i.e., the final release".[1]

[1]*Nyāyabhāṣya* on *NS* 1.1.1: "*ātmādeḥ khalu prameyasya tattvajñānān niḥśre yasādhigamaḥ | tac caitad uttarasūtreṇānūdyata iti | heyaṃ tasya nirvvarttakam, hānam ātyantikam, tasyopāyo 'dhigantavya ity etāni catvāry arthapandāni samyag buddhvā niḥśreyasam adhigacchati|*".
For *Nyāyabhaṣya*, see *Nyāyadarśana*, Ganganath Jha, Ed., (Poona : Oriental Series).

Does the above discussion show that the Buddha's model of explanation and his method of analysis and reasoning penetrated, perhaps unknowingly, into the minds of some non-Buddhist philosophers also? I am prepared to give an affirmative answer to this question. There is, of course, the danger of over-simplification on this issue, because the question of who influenced whom among the ancient thinkers becomes very tricky when sufficient textual evidence is not available. But with regard to the above, a common pattern is so clearly discernible that one cannot escape the obvious conclusion. In fact, the well-known problem of life that the Buddha wanted to solve was also the problem for which other Indian thinkers wanted to find a solution. And if a common pattern emerges from the different solutions offered by these thinkers, this should not come as a surprise to us.

General Remarks on Karma and Saṁsāra

There have been many studies of the concept of *karma* and *saṁsāra*[1]. Confusions and misinterpretations are only to be expected with regard to the explanation of such complicated notions. These two terms are very much in use even by modern Indians. Social anthropologists of today may apply their ethno-semantic principles to determine the meaning of these terms as they are understood in modern Indian society. While I do not question the efficacy of their methodology, I would like to draw attention to the fact that even educated modern Indians use these terms in a multiplicity of senses and very few really care to know the origin of these concepts and their original meaning.

The above remarks should not be taken as a prologue to my attempt at giving *the* original meaning of these concepts. Neither can I claim to give their original meaning, nor do I

[1]For a survey of this concept. I refer to P. V. Kane's *History of Dharmaśāstra*, Vol. V, part 2, (Poona, 1962), pp. 1531-1612. Kane gives also a brief list of modern works dealing with the subject (pp. 1604-5).
A note on the spelling of the word *karma*. The correct Sanskrit spelling is *karman*, nom, sing. *karma*. But since the most commonly found spelling in modern works is *karma*, I have adopted it here. It is interesting to see that *Webster's New Collegiate Dictionary* gives the following meaning of the word *karma*: "1. In Hinduism and Buddhism, the whole ethical consequence of one's act considered as fixing one's lot in the future existence. 2. Hence, loosely, destiny, fate."

hold any brief for it. My purpose here is a very modest one: I would like to bring to light some simple assumptions and considerations implied in these concepts, some simple facts which are too often omitted in the discussion of *karma* and *saṁsāra,* because they are too obvious ! I believe that some of the criticisms of these concepts are due to the fact that the 'too obvious' points are not often mentioned!

I shall indulge in some vast generalizations. Unfortunately, this will be the nature of the present discussion in this section, as the sub-title shows. In the same vein I shall try to see whether any worthwhile lesson can be derived from the KARMA doctrine in the modern context.

The concept of *saṁsāra,* which means the cycle of birth, death and rebirth going round and round, embodies the Indian notion about the problem of life. The problem, as the Indians understood it, can be stated as follows. We are caught up, as it were, in a meaningless routine of birth and rebirth which degenerates into pain and boredom and from which we seek release. We seek release because although we are essentially free individuals, we are, by accident, in a state of bondage. The drudgery of our daily routine encroaches upon our freedom, and the dry, repetitive routine of *saṁsāra* cripples our cosmic freedom. The cosmic freedom that is mentioned here is not quite the freedom to act according to our will but a more basic form of freedom. It is a freedom from the situation under which we are bound to act in certain determined sorts of ways, a situation which does not leave us any choice.

The *karma* doctrine may be rendered simply as our moral responsibility for whatever we do. Or, to put it in another way, it means that our destiny is our own making. The present comes out of the past and the shape of the future depends upon what we do in the present.

'Rebirth' in the Indian sense is just what it means. It does not convey any reference to the spiritual awakening in the Christian sense. The law of *karma* is a principle of moral causation. This principle of moral causation is an extension of the principle of causation in the field of physical or natural science to the field of ethics and moral responsibility. Since philosophic activities in India started with the systematic speculations about the origin of the universe and different causal theories

about it,[1] it is not surprising that the concept of causality should play such an important role in the sphere of human conduct and morality. Whether this extension from the physical to the moral field is justified or only uncritically arrived at, is a separate question with which we are not concerned here.

Both the KARMA and the SAṀSĀRA doctrines seem to be gradually taking shape from the time of Yājñavalkya in the *Bṛhadāraṇyaka Upaniṣad.* Of many significant passages there, I would like to mention particularly one in the story of Yājña-valkya and Ārtabhāga. The story runs as follows. In the court of the king, Janaka, Yājñavalkya was answering various 'philosophical' questions put to him by other brāhmaṇas. To Ārta-bhāga's question as to what happens after death, Yājñavalkya chose to discuss it in private with Ārtabhāga alone. The Upaniṣad states that they went to a secluded place to discuss the question in private and what they discussed was KARMA alone, what they praised was KARMA alone viz., that a man becomes good by good works and evil by evil works'.[2] I think the need for this privacy arose because the KARMA doctrine was not yet a generally acceptable doctrine. Again in the same Upaniṣad, we find the rudiments of the SAṀSĀRA theory suggested by such poetic examples of a caterpillar reaching from one blade of grass to another blade,[3] and of a snake-skin lying dead and cast-off in an anthill while the snake moves on with a new skin.[4] It should be noted, however, that in old Ṛgvedic hymns we meet notions which approximate the Western concepts of Heaven and Hell,—concepts which were greatly modified when the new doctrine of KARMA and SAṀSĀRA was introduced.[5]

In the Śramaṇa schools like Buddhism and Jainism, and in other philosophical sūtras, the *karma* theory appeared as a well-established doctrine and the *saṁsāra* hypothesis is presupposed everywhere. The Lokāyata Śramaṇa[6], however, preached a

[1]I beleive that primitive philosophical speculations started in India with such cosmogonical hymns as *Rg Veda,* X. 129. *Nāsadīya* hymn. See also § 4.2.
[2]*Bṛhadāraṇyaka Upaniṣad,* III. 2. 13.
[3]Ibid., IV.4.4.
[4]Ibid., IV. 4. 7.
[5]See P. V. Kane, *History of Dharmaśāstra,* Vol. IV, pp. 154-71, and Vol. V, Part 2, p. 1532.
[6]The Lokāyatas were referred to as both brāhmaṇas and śramaṇas in the

hedonistic doctrine and rejected the *saṁsāra* hypothesis and the moral responsibility of action. The Ājīvika Śramaṇa preached complete determinism and fatalism (cf. *niyati-vāda*).[1] Although the *saṁsāra* hypothesis was accepted by the Ājīvika, human actions were thought to be meaningless, because they would not affect in the least the inexorable world-process. In fact, the term 'human action' was a misnomer for the Ājīvika (cf. *a-kriyā-vāda*). The Jainas and the Buddhists opposed this view and established the efficacy human action (cf. *kriyā-vāda*). Thus, the Brahminical *karma* doctrine found its root in the Śramaṇa tradition.

I have already called the *karma-cum-saṁsāra* doctrine a hypothesis for the explanation of certain phenomena. Let us examine the background more closely. The ultimate question in almost all our primitive religio-philosophical traditions takes the following form: What happens to us when the body dies? Does everything end with death? (Or, do we have to think of an 'after-life'?) The answer of the Lokāyata to this question is that when the body is reduced to ashes after death nothing remains that will re-appear.[2] The usual answer of Christianity is in terms of the Day of Judgement and eternal reward or eternal damanation. This answer presupposes not only the immortality of our souls, but also the existence of God, the all-powerful, as well as His Grace. The *karma*-cum-*saṁsāra* hypothesis is just another possible answer to the above question. But the important thing is that this answer does not necessarily presuppose the existence of God as the all-powerful. In fact, the *karma* theory is independent of theism, and on a stronger interpretation it becomes opposed to theism of the usual form. Thus, Buddhism, Jainism and the early Sāṃkhya school—all accepted the *karma* doctrine, but were atheistic, or non-theistic.

Let me explain. The *karma* theory presupposes that there

---

early sources. For example, in the *Rāmāyaṇa*, they are called *brāhmaṇas* and in the Pāli Canons they are called *śramaṇas*. See Gopinath Kaviraj, *Aspects of Indian Thought*, "Theism in Ancient India", pp. 45-47. Incidentially, this article of G. Kaviraj is, contrary to what the title seems to suggest, a very good and illuminating survey of all the atheistic doctrines of ancient India.

[1]See Kaviraj, pp. 54-60.

[2]Cf. *bhasmībhūtasya dehasya punarāgamanaṁ kutaḥ*. See *Sarvadarśanasaṁgraha* (Abhyankara's edition, Poona, 1951), p.2.

is survival after death or, at least, there is perpetuation of existence. The idea of immortality of soul might have come from the Egyptian culture. The idea is found in Vedic India as well as in the West. But the main distinction is that the Christians believe in the post-existence of the soul after the death of the body, but not its pre-existence. The *Saṁsāra* theory of the Indians extended this notion of perpetuation into pre-existence and post-existence, and this was necessitated by the *karma* doctrine in a manner which we shall presently see. Buddhism rejected the idea of a soul but maintained perpetuation and continuity of life through *saṁsāra* on the analogy of a river-stream continuum and thus made the *karma* theory the very basis of such *saṁsāra* or transmigration.

The *karma* theory in its simplest form means that every act, whether good or bad, produces a certain result or consequence which cannot be escaped by the perpetrator of the act. It is posited as a moral necessity. *It is neither a mechanical law nor an experimentally verifiable principle obtained through induction.* Most of its criticisms are, in my opinion, based upon the wrong assumption that it is so. It is at best a hypothesis and at worst a supposition.

I would like to make three points at this stage: (a) The *karma* theory refuses to admit that the world is arbitrary and that there is anything called chance or caprice. (b) It is opposed to the theory of destiny or fatalism. (c) It attempts to explain the world process without resorting to the grace of a personal God or an all-powerful Creator. It also avoids the problem of evil in a novel way, but I shall not go into it here.[1]

When the Śramaṇa movement (i.e., the movement of the 'free thinkers') against the established Brahminical ideas was gaining ground in India, the Lokāyata school accepted the 'chance' doctrine to explain the origin and perpetuation of life on earth. They preached complete hedonism. And as a logical consequence of their 'chance' doctrine, they accepted the theory of complete annihilation after the death of the mundane body.[2] The *karma* theory opposed the Lokāyata position, which proves my first point in the preceding paragraph.

[1]See Matilal (1982), *op. cit.* ch. 2.

[2]This is referred to as *ucchedavāda* in philosophical literature. E.g., *Mādhyamikakārikā*, XV, 10-11.

The Ājīvika Śramaṇa school rejected the 'chance' doctrine, but went to the other extreme. They preached complete determinism and fatalism. Under the *Niyati* doctrine of the Ājīvika, 'human action' became a meaningless phrase and our freedom to act was denied. The *karma* doctrine opposed this position too, and allowed freedom of will and freedom to act. This proves my second point above.

The varieties and inequalities of life and human experience were accepted in ancient India as empirical 'facts' standing in need of some causal explanation. The short-cut way would have been to posit an all-powerful God and then make His 'mysterious ways' responsible (i.e., causally responsible) for all these empircial facts. Most of the early philosophical systems in India hesitated to accord such a place of all importance to God. The Sāṅkhya system rejects the idea of God as the Creator.[1] The *Vaiśeṣika-sūtra* forgets to mention God as a possible category. Even later, when Praśastapāda incorporates God in the Vaiśeṣika system, God's will or God's grace appears more or less as an inessential appendage to the theory of creation and destruction (in terms of atomic conjunction and disjunction).[2] The *Nyāya-sūtra* considers the possibility of God's being causally responsible for this universe and ends with a sceptical note.[3] Even the *Vedānta-sūtra* or *Brahma-sūtra* poses the question. How God can be causally responsible for this universe unless He is also thought to be either unjust or full of whims and caprices.[4] The dilemma was solved there by making God dependent upon man's KARMA for his creative activity. Buddhism and Jainism were avowedly atheistic. But they accepted the *karma* theory to explain the varieties and inequalities of human experience.

Man's own past actions are responsible for his present joys and sorrows, his present 'experiences' (*bhoga*). His 'character' is his

[1]See *Sāṅkhyakārikā* Verses 31, 56.

[2]See *Padārthadharmasaṁgraha*, with *Nyāya Kandalī* (Ed. Durgadhar Jha, Varanasi, 1963), pp. 121-31.

[3]See *Nyāyasūtra* 4.1.19-21. For an illuminating discussion on the problems involved see D.H.H. Ingalls' "Human Effort versus God's Effort in the Early nyāya (*NS*. 4.1.19-21)," in *Dr. S.K. Belvalkar Felicitation Volume*, Banaras, Motilal Banarsidass 1957, pp. 228-35.

[4]See *Brahma-sūtra* II. 1. 34-36.

own 'destiny'. The present inequalities are due to inequalities in his past behaviour. This is, thus, a doctrine of complete self-responsibility. Not only that. Man is also free to work his way out of the mess in which he finds himself through his own actions. Thus, reduced to its bare essentials, the *karma* theory breathes a rather healthy spirit of self-determination, and looks at the facts of life with a much straighter eye. This explains my third point above that the *karma* theory reduces God's role to an unimportant detail, if not entirely unnecessary, in the matter of an explanation of the world-process.

It is, however, a highly paradoxical result that the uncritical acceptance of the *karma* theory led, in fact, to conservatism and inaction in India, that it favoured acceptance of the *status quo* rather than a vigorous attempt to remedy injustice and interference with the 'law of karma' ! This is a historical fact. To understand the connections one needs to analyse cautiously and carefully many other contributing factors. One needs to investigate many sociological, psychological and environmental points in detail, which is beyond the scope of the present book. But it is highly interesting to see that the law of *karma* which was originally formulated to oppose fatalism and encourage free will became later on a plea for a disguised fatalism. The blind force of Niyati easily stole into the system under the guise of the 'unseen' forces (*adṛṣṭa*) of actions perpetrated in previous births ! Even the meaning of *Niyati* underwent slight change and came to be used in the sense of 'unseen' forces.[1]

This unusual about-face was brought about with help from the closely associated *saṁsāra* hypothesis. If the varieties of our experience of pleasure and pain, inequalities of our situations, environments and capabilities, cannot be explained with reference to our actions in the present life, the full-fledged 'moral causation' theory seems to dwindle away. Particularly, problematic situations arise when one wishes to rationalize the tough luck of new-born babies and their apparently unaccountable sufferings. It was in this way, I think, that the idea of pre-existence was forced upon the *karma* theory to avoid the other unwelcome

[1]See Kaviraj, pp-56.
For example, even in the *Bhagavadgītā* freedom of will has often been emphasized. Cf. IV., 12, III, 20.

alternative, i.e., that of 'chance' or 'bad luck'. Much in the same way, it seems to me, the idea of post-existence, or existence after death, was recognized in most ancient religious traditions when it was seen that many individuals were receiving neither rewards for their good actions nor punishments for bad actions.

Once the 'transmigration' hypothesis is thus arrived at, it began to both uphold and sustain the *karma* doctrine. We have already noted that it rendered the *IŚVARA* doctrine (God as the cause of the universe) somewhat inessential and made the 'chance' or 'fate' doctrine generally unacceptable. The Buddhist rejected the idea of a transmigrating soul but accepted transmigration as a 'process' perpetuated by the KARMA principle.

The general mechanics of the *karma*-cum-*saṁsāra* doctrine is as follows : Our present situation, our environmental circumstances and our dispositional propensities are simply the results of our previous action (*karma*). We act under a given circumstance and in so acting we enjoy some amount of freedom. (This element of freedom to act is an important but often neglected point.) And because of this freedom of choice we must share the moral responsibility of our actions. How? Some acts produce their 'entire' results immediately while other acts, after giving some immediate results, retain some distant or non-immediate results. This residue takes the form of *karma* or unused merit and demerit, and persists unless and until we have *enjoyed* or suffered from its fruits. Thus, *karma* is like a rolling snow-ball which is ever melting because of the heat but retaining its size or increasing in volume because of a feedback process. We use up accumulated *karma* by undergoing experiences of pleasure and pain and by acting in a particular way, and our actions earn more *karma* for us. And hence comes the advice of the wise or the philosophers to try to break this monotonous repetition, this vicious circle of *saṁsāra*, by seeking freedom or emancipation. *Mokṣa* or freedom is that state in which *karma* will not be able to cripple you—says the Indian philosopher.

I have already referred to the existence of the element of freedom of choice in the *karma* theory. Not everything has been totally determined or fixed by our previous *karma*, or to use a more neutral terminology, by our background. Alternative courses of action are possible and open to mankind.[1] Otherwise, the

[1] I wish to refer to the dispute between *kriyāvāda* and *a-kriyāvāda* that was

Buddha's teaching about the way to Nirvāṇa or Śaṅkara's prescription about the way to mokṣa would have been pointless. The whole *mokṣa-śāstra* would be an uncalled for endeavour.

This 'freedom of choice' aspect of the *karma* theory is often more intriguing than it is usully supposed to be. Given a certain external situation and a set of internal dispositions and propensities, a man is generally believed to act predictably. This is what we often tacitly assume. But the situation becomes more interesting when our prediction proves to be wrong. That a man may act or react unpredictably under a given situation, proves his freedom of choice among alternatives. And this freedom of choice also necessitates the moral responsibility for the choice made.

Part of what is called *sāmagrī* or 'the totality of causal conditions' is determined, but part of it is not. And in this latter part man uses his discretion. But once he has made a decision about a particular course of action, he must reap his own harvest. There is no getting away from this moral obligation. Such a hypothesis about the moral causation and responsibility coupled with the metaphysical notion of pre-existence and post-existence may not satisfy our modern mind, since this may not be the most reasonable explanation of the phenomena of diversities of our experience and inequalities of results. But it certainly tries to uphold the principle of justice and fairness of things, which we value even today.

The difficulty consists not so much in maintaining the *karma* theory as in maintaining the *saṁsāra* hypothesis. The most disturbing factor is the fact that the gradual increase in the world population makes the whole *saṁsāra* hypothesis highly dubious.[1] A satisfactory answer to the question of the increase

prevalent among the *Śramaṇas* of ancient India. This was the bone of contention between the Ājīvaka leader Makkhali Gosāla on the one hand and the Buddha or the Mahāvīra on the other. The general slogan of the *kriyā-vāda* was : although the present condition of a person is determined by his previous activities or *karma*, he is nevertheless FREE to choose between a life-style that would finally lead to *nirvāṇa* and a life-style that would not. Short of this assumption all the teachings for the practice of austerities, morality etc. would be pointless.

[1]This objection is frequently raised in modern works dealing with *saṁsāra*. For example, J.E. Sanjana's *Dogma of Re-incarnation* p. 81.20. For such inadequate answers see P.V. Kane, p. 1611.

of the world population under the *saṁsāra* hypothesis seems to be impossible. Various answers that are usually given are too obviously inadequate to receive any comment.[1] My job here is not to justify the *saṁsāra* hypothesis. Note that the *karma* doctrine is not the same as the *saṁsāra* doctrine, although in Indian history one inevitably led to the other. My point here is to emphasize the moral principle which the *karma* doctrine tried to uphold in spite of opposing evidence. To get around such opposing evidence the *karma* doctrine helped to develop the *saṁsāra* doctrine as a supporting hypothesis. If, however, the same moral principle can be maintained without necessarily implying the *saṁsāra* hypothesis (and at the same time without resorting to such hypotheses as the 'will of God' or 'the caprice of Nature'), then, I think, the new doctrine would be just as well acceptable to those who first proposed the *karma* doctrine almost two millenniums ago.

While discussing the problems of ontology in the Indian context we have got irresistibly and inevitably involved in the discussion of certain broader issues, such as : what is life? what is the meaning (goal) of human life? and, what explanation, if any, can be given for our problems of life, sufferings, inequalities, and evils ? Whether or not, professional philosophers today (those who are interested in logic and ontology) should engage themselves in a discussion about such broader issues, is however, another matter. I have only tried here to give an impressionistic account of the various ways in which Indian classical philosophers dealt with such questions. In the next chapter, however, I shall revert to logic and ontology, particularly to the relationship of Sanskrit grammatical theories with the logical and ontological theories of classical India.

[1]For such answers one may again consult P.V. Kane, *History of Dharmaśāstra*, Vol. V, Part 2, the chapter on Karma and Transmigration (*punarjanma*).

CHAPTER FIVE

INTERACTION OF GRAMMAR AND PHILOSOPHY

5.1: The Doctrine of Karaṇa

The problems of Nyāya logic are intimately related to Sanskrit grammatical theories. The so-called 'logical' (*nyāya*) procedure includes analysis of language (words and sentences). It is important to see how grammatical issues influenced the arguments of the philosophers in classical India. Modern writers have sometimes used the term "logic" to designate the *pramāṇa-śāstra*. What is a *pramāṇa*? The answer in brief is this. A Pramāṇa, as the etymology of the word indicates, is a *Pramā-karaṇa,* i.e. the instrumental cause of what is known as *Pramā*. The suffix 'lyuṭ' has been used here in *karaṇavācya* to designate instrumentality. Thus, we come to another question, What is a Karaṇa? Or, to be more precise: what actually is this *Karaṇatā* or instrumentality by which a thing is designated as a Karaṇa of something?

A Karaṇa from the point of view of Grammar is one of the *Kārakas* or 'cases'; and from the point of view of ontology, it is a special type of Kāraṇa or cause. Thus *Karaṇatā* is a *Kārakatvavyāpyadharma* (a property pervaded by the generic property *Kārakatva*) and also a *Kāraṇatvavyāpyadharma* (a property pervaded by the generic property *Kāraṇatva*). By *Kārakatva*, the grammarians understand certain relations that the nouns have with the verb in a sentence. Generally, as many as six relations or connectors of nouns to the verb are expressed in a sentence. These six specific relations or connectors are

grouped under the generic name, *Kāraka.* One cannot exactly say that these six relations exhaust the list of all the possible relations of nouns to a verb in a sentence. It is safe to say that *Kāraka* is a technical name given to these six specific relations almost arbitrarily chosen. *Karaṇa* as a *Kāraka* is directly related to a verb. And as a *Kāraṇa* or cause it refers to some non-eternal entity which is called a '*Kārya*' the effect or result of a complex of causes. There are causal conditions to produce an effect or event, but not all causal conditions are *Karaṇa*. Nyāya believes in the plurality of causes, but only one of such causes would be a *karaṇa*. Let us take some concrete illustration of a *Karaṇa*. We use sentences like "*kuṭhāreṇa chinatti*" ("He is cutting a tree with an axe"), taking the axe as the instrumental cause and, therefore, adding instrumental case-ending to it to express the instrumental sense. In English, prepositions like "with" or "by" are generally used to denote the instrumental sense.

Thus, the axe is regarded as a typical example of a Karaṇa with reference to the relevant event e.g., felling of a tree. As a product, this event is a result of a complex of causes. But of those so-called causes the axe enjoys a special position by virtue of which it is regarded as a *karaṇa*, and not simply a *kāraṇa*. A *Karaṇa* has, thus, been defined as the *asādhāraṇa Kāraṇa*, or the unique or uncommon cause. But wherein lies its uniqueness or uncommonness? To be precise, what is the actual position of the axe in relation to the effect? In what relation does it stand to the felling of the tree? Enquiry into this line, I think, will reveal the true nature of a *karaṇa*.

That a *karaṇa* is a *kāraka par excellence*, or more clearly, a *kāraṇa par excellence*, is unanimously accepted by almost all scholars. But regarding the true character of this excellence or supremacy of *karaṇa* over other causes, opinions vary. One school of thought (propounded, perhaps, by Uddyotakara first and then expounded by other scholars), assuming *karaṇa* as the most efficient of all causal conditions, defines it as that cause which is immediately connected with the effect or *Phala* (*Phalopadhāyakam kāraṇam*). The most efficient cause, according to them, is the most effective cause, i.e. to say, that which finally precedes the effect. Thus, a *karaṇa*, in this view, is the final (*carama*) cause, a cause which finally produces the effect. To be more precise, a *karaṇa* is that cause which is distinguished from

all other causes that are not immediately connected with the effect (*Phalāyogavyavacchinna-kāraṇam*). It follows that a *karaṇa* is such that, it being present, the result must necessarily and immediately follow (*karaṇaṃca tat yasmin-sati kriyā bhavatyeva*)[1] To take for example, in the case of felling a tree, the effective contact between the axe and the tree will be the final cause and, hence, it is a *karaṇa* in this view. For this particular type of contact (*vijātīya saṁyoga*) causes the event itself without waiting for other conditions. Similarly, in the case of a visual perception, the final sense-object contact is regarded as the *karaṇa*.

This view takes the *karaṇa* to be the chief cause. There is, however, one difficulty connected with this view. In popular language, we take the axe as the *karaṇa* in felling a tree, and the eye as the *karaṇa* of visual perception. According to this view, the axe or eye cannot be the *karaṇa* as they are not the most immediate cause. In logical analysis we see that it is the axe's peculiar contact with the tree that finally causes its felling, and the sense-object contact that finally reveals an object of visual perception. Scholars subscribing to this view may come forward to meet this objection with a modified definition of *karaṇa*. It is that which causes the action denoted by the verb, but not through the operation (*vyāpāra*) belonging to a case (*kāraka*) other than itself (*svabhinna*).[2] Thus, neither the agent (cutter) nor the object (tree) causes the action directly in this specified sense. The cutter does so only by making the axe function well, while the tree by making the function of the axe possible (because without the tree, the axe cannot function upon it). Only the axe has been directly (i.e., through its own operation) the cause of the felling of trees and not through any other means. So it is a *karaṇa* and, thus, the popular usages are justified.

A flaw in this argument is not far to seek. The axe cannot be the *karaṇa*, according to the above definition.

A relation is conditioned all alike by both the relata. The *vijātīya* contact between the axe and the tree is a relation (a connector) which is also regarded as the operation (*vyāpāra*) under the present context and, hence, is necessarily conditioned by the tree also. Thus, the axe becomes the cause through the

[1] *Nyāyakośa*, p. 149.
[2] *Kāraka-Cakra*., Bhavānanda p. 40

medium of the operation (*vyāpāra*) belonging to a *kāraka* (e.g., the tree) other than itself. Such a definition of *karaṇa* and along with it the attempt to include axe, eye, etc. (popular examples of *karaṇa*) under such definition would be baffled, since, according to this view, the most immediate cause immediately preceding the action is regarded as a *karaṇa*. In popular usage, the axe is regarded as *karaṇa* in a merely secondary sense, the primary sense of *karaṇa* being the final cause (*kuṭhārādau karaṇapadam gauṇam*).[1]

The other school of thought (almost generally accepted by the Navya-naiyāyikas) overcomes the said difficulty by interpreting the notion of excellence or *asādhāraṇatva* or uniqueness over other causes in a slightly different way. *Karaṇa* is that operating cause whose operation is directly effective, that is to say, immediately connected with the effect or *Phala*.

Phalāyogavyavacchinnavyāpāravat kāraṇatvam[2].—Operation or *vyāpāra* is technically defined as that which produces the final product, itself being produced by the operator or *vyāpārin* in its turn (cf., *tajjanyatve sati tajjanya-janakatvam*). It follows that *karaṇa* causes the effect through its own operation or *vyāpāra*, which intervenes between the effect and its *karaṇa*. Thus there is no difficulty with the axe or the eye to be called *karaṇa* in popular language. The axe is *vyāpāravat*, its *phalopadhāyaka-vyāpāra* or directly effective operation being the *vijātiya* contact between the axe and the tree, and the eye is so, its contact with the object being its *vyāpāra*. Thus, well-known examples of *karaṇa* are justified, according to the present definition, while, according to the previous definition, the last cause (which is generally viewed as *vyāpāra* in the present definition) is the *karaṇa* purely in its technical sense.

These two different theories are equally predominant among the scholars. The reason for their difference lies chiefly in their respective ideas of the excellence or efficiency (*prādhānya* or *atiśaya*) of *karaṇa* as a cause. One tries to justify the popular examples of *karaṇa* like an axe, while the other neglects popular usage as a mere grammatical convention. There is another view, hinted at by Jayanta Bhaṭṭa and others, which asserts that it is

[1] *Kāraka-Cākra* p. 42.
[2] Ibid., p. 42.

the *Sāmagrī* (the sum total of all causal conditions) which should be regarded as the *karaṇa*. No other causal condition, but the 'whole cause' or *Sāmagrī* deserves to be considered as the chief cause or the supreme cause. The *sāmagrī* being present, the product must follow. It follows from the very conception of *Sāmagrī*. *Sāmagrī*, therefore, is the *karaṇa*, if *karaṇa* be viewed as the chief cause. This view, of course, involves certian logical difficulties regarding the exact nature of the *Sāmagrī*. These have been pointed out by the Jain writer Prabhācandra (in his *Prameyakamalamārtaṇḍa*). Other writers of Nyāya-Vaiśeṣika school do not pay much attention to this view of Jayanta, which proves that it does not find favour with them. It is clear that, according to this view, we are to conceive of an 'ideal cause' composed of all the causal conditions —positive or negative, remote or proximate—which may reasonably be called 'a cause'. Whether the notion of *karaṇa* can *de jure* be applicable to this, is another matter.

One thing is clear. The notion of *karaṇa* has been taken from grammar, which in turn follows the usages of the language. And usages roughly crystallize the idea behind them. In logical analysis, the '*final cause argument*' may be thought of as the best one and 'the *Sāmagrī argument*' may also gain some strength from an ideal viewpoint. But 'the *Vyāpāravat argument*' or '*the axe argument*' stands, in our opinion, certian crucial tests. The well known instances of *karaṇa* are generally classed under the *Nimitta-kāraṇa* or 'efficient cause'. (They can best be known as 'extrinsic and efficient'.) Their importance in the production of an effect should not be underestimated.

Let us consider certain typical cases of *kāryas* that generally require a *karaṇa*. *Kāryas* are technically defined as the absentee of a prior absence (*prāgabhāvapratiyogin*) and, as such, they are either some substance or *dravya* (cf., pot), or some quality or *guṇa* (cf., *jñāna* or cognition), or some activity (cf., throwing a stone) when positively considered and a negation or destruction, i.e., posterior absence of a pot (*ghaṭadhvaṁśa*) when negatively considered. Take the case of a kārya-dravya, i.e., a pot. Its material cause (*samavāyi-kāraṇa*) and along with it the so-called non-inherent causes (*asamavāyi-kāraṇa*) must be there because the pot is a material substance. (See § 4.2 for *asamavāyi kāraṇa*.) For its production again some sort of activity should

be generated in its materials producing their final conjunction (*ārambhaka-saṁyoga*), which implies that a willing agent (who is a *nimittakāraṇa*) must be there to effect the starting push to these materials which are intrinsically without motion. (For our present discussion we leave aside the general *nimittakāraṇas* like *adṛṣṭa*, God's will, etc.). All these follow from the general nature of the case under consideration, but they are not always sufficient for the production of the effect. What more is wanting? There must be the *karaṇa* along with its operation. What I intend to stress upon is this: the very notion of production of a dravya, say X, necessarily implies that there must be material along with its qualities as well as a producer, but that instruments like a rod, threads, etc. along with their operations should not necessarily be there. But without them the particular production will not follow. Therein lies the causal efficiency of instruments like a rod, etc. which are called the *karaṇas*. Similarly, in case of perceptual knowledge, a knower must be there (for knowledge as a quality must need the substance to inhere into) and so also the object (for knowledge is always related to an object, and without a reference to an object, knowledge is meaningless). But is that all? No. What more is wanting is the sense-organ—the *karaṇa* (even *manas* may be included here). In the same way comes the utility of the hand as an instrument in throwing a stone. Now the case of *ghaṭadhvaṁsa*, the destruction of a pot by a rod, is also easy enough to explain. Destruction is necessarily related to its *Pratiyogin* or the absentee, (i.e. the pot), without which it is meaningless. So the presence of the pot, a *nimittakāraṇa*, is explained. Again, the notion of 'destruction' implies an activity (*kriyā*) generated into the parts of the pot resulting in their final disjunction (*vibhāga*) by destroying their ultimate 'productive' conjunction (*ārambhaka-saṁyoga*). This activity needs an active agent as before. But what more is needed? The instrument rod has also to be utilized, and, thus, deserves the designation of *karaṇa*. This is the *asādhāraṇatva* of a *karaṇa*, A *karaṇa* is *a kāraṇa par excellence.*

A popular illustration from ordinary life, by a distant analogy, may, to a certain extent at least, clarify my foregoing argument. Suppose, Mr. Q, who was ill, gets well now and finds four persons (Mr. A. B, C, D) responsible for this restoration of health. They are to be thanked. Mr. A happens to be his father

who calls the doctor, Mr. B happens to be his servant who prepares the medicine, Mr. C is the brother who administers the medicine, and Mr. D, the Doctor. While going to thank them he finds the first 3 related to him in some way or other. Their relations persuaded them to do their respective duties. But Mr. D, not related to him, comes from outside. Thus, he is the proper man to get thanks. So also our *karaṇa* gets thanks. This may not hold under close scrutiny, but this is how our pre-philosophical intuition singles out one particular item from the 'causal complex' and gives it a preferential treatment.

§ 5.2 : Substance and Qualilty in Sanskrit Grammatical Theory

Credit goes to the Indian grammarians, particularly to Bhartṛhari, for emphasizing the theoretical indivisibility of a sentence as an expression of thought.[1] The modern linguist realizes that sentences are initially learned as wholes, although at a later stage we build up new sentences almost unconsciously from the learned parts by analogical substitutions and combinations. Although Bhartṛhari, the great grammarian-philosopher of c. fifth century A.D., appreciated the primacy of the sentence, he recognized, nevertheless, the pragmatic value of the concept of word and word-meaning (*padārtha*) as an aid to the analytical method in grammar and philosophy. *Padārtha* 'word-meaning' is also used in Sanskrit, perhaps, with a shift of emphasis, to mean philosophical categories such as substance (*dravya*) and quality (*guṇa*). Thus, it is that Bhartṛhari discussed the nature of certain philosophical categories and their possible relevance to the grammatical theories of the Pāṇinian school.

It has been suggested by some scholars that the system of Vaiśeṣika categories of substance, quality and action was much influenced by the grammatical categories of the Sanskrit language. Thus, it will be instructive to see how the ancient Indian grammarians defined the so-called categories of substance and quality. We shall also consider how Bhartṛhari gleaned philosophical

[1]See John Brough, "Some Indian Theories of Meaning", *Transactions of the Philological Society* (Oxford) 1953, pp. 164 167. See also Gaurinath Sastri: *The Philosophy of Word and Meaning* (Calcutta) 1959, p. 83ff.

materials from different portions of Patañjali's *Mahābhāṣya* and tried to incorporate them into his system.

Bhartṛhari expounded his theory of *Śabdādvaita*, the philosophy of transcendental reality, in the first book (*kāṇḍa*) of his *Vākyapadīya*. In the second book (*kāṇḍa*), he examined the notion of empirical reality, by which he meant the notion of words and sentences. In the first chapter of the third book (*kāṇḍa*)[1] he restated his position as follows : Just as the *padavādins* (those who regard the word as the primary indivisible unit) consider word-constituents, such as roots and suffixes, to be mere fictitious abstractions from words, so also the *vākyavādins* (those who regard the sentence as the indivisible unit) consider words to be imaginary abstractions from the sentence.[2] What holds at the syntactic level also holds at the semantic level. Thus, in the beginning of the fourth chapter of the third book (*kāṇḍa*), Bhartṛhari rephrases his theory as follows : For the grammarians (i.e., for the *vākyavādins*), the word-meanings are fictitious constructions from the sentence-meanings (which are to be regarded as wholes), just as for the *padavādins* (the *Mīmāṃsakas*?), the meanings of roots and suffixes are mere abstractions from the indivisible word-meanings. The sentence-meaning, according to Bhartṛhari, is an indivisible *saṃvit*—one whole cognitive content—from which different word-meanings—also called ontological categories—are abstracted by imaginative construction.[3]

Our main concern here is with the two principal categories, viz., *dravya* 'substance' and *guṇa* 'quality', and their claim to be regarded as *padārtha* 'word-meaning'. This will obviously be related to our discussion in the previous chapter, particularly § § 4.1, 4.3. Incidentally, the term *dravya* 'substance' in Bhartṛhari's system has a very special metaphysical sense—a sense with which we will not be concerned here. Bhartṛhari discusses this metaphysical sense of *dravya* 'substance' in the second chapter of the third book of his *Vākyapadīya*. As Helārāja, commenting on the third book, points out, the term *dravya* 'substance' is used in two senses : (a) the ultimate reality or the ultimate substance—

[1]The third book is usually called *Prakīrṇaka*. Whether this formed a part of *Vākyapadīya* or a separate work by itself is a debatable question. All three books are sometimes referred to as *Tri-kāṇḍī*.

[2]*Vākyapadīya*, Book III, chap. I, verse 1.

[3]*Vākyapadīya*, (Benares Sanskrit Series), Book III, chap. IV, verses 1 and 2.

pāramārthika-dravya and (b) the empirical substance—*sāṃvyava-hārika-dravya.*[1] The ultimate substance is imperishable and is identical with what is called *ātman.*[2] The notion of empirical substance has been discussed by Bhartṛhari in the fourth chapter of the third book (*kāṇḍa*). It is this notion of substance that can be contrasted with the idea of 'empirical' quality discussed in the next, i.e., fifth chapter. And it is this notion of substance which the grammarian Vyāḍi (mentioned by Kātyāyana) believed to constitute the primary meaning of words. In the present section we will be concerned with this notion of substance.

Pāṇini (c. B.C. 400-300) implicitly made use of certain ontological categories, such as substance and quality, while he was developing his grammatical system.[3] Bhartṛhari indicates that the nature of these categories can be inferred from an analysis of Pāṇini's grammatical rules. The commentator Helārāja adds that the rule prescribing *ekaśeṣa* (*Pāṇini-sūtra* 1.2.64) implies the following notion of substance : A substance is that which is to be distinguished from other substances by using suitable words referring to them. This is a very significant statement. Let us examine it briefly.

Ekaśeṣa is a grammatical operation of the Sanskrit language by which two or more words (having identical phoneme sequences) referring to two or more objects or substances are (omitted and) reduced to one word (with dual or plural inflections as the case may be). By extension, the operation *ekaśeṣa* is also made to cover the cases of homonyms (identical phoneme sequences having different meanings) and many other cases.[4] For

[1] "*dravyaṃ ca dvividhaṃ pāramārthikam sāṃvyavahārikaṃ ca / tatra dvitīyam bhedya-bhedaka-prastāvena guṇa-samuddeśe vakṣyati vastūpalakṣaṇam yatretyādinā/ anena ca dravyeṇa vyāḍi-darśane sarve śabdā dravyābhidhāyino bhavanti*"—Helārāja's commentary on *Vākyapadīya*. Benares (Benares Sanskrit Sesies (1905), p. 85.

[2] *Vākyapadīya*, Book III, chap. II, verse 1.

[3] The two terms *dravya* and *guṇa* have, in fact, been used in various senses on different occasions in Pāṇini's system of grammar. But setting aside the controversies, we can say that what we will be discussing here are the chief senses of these two terms.

[4] Thus, for example, we have *ekaśeṣa* in words like *pādāḥ* (which combines three different *pāda* words used in three different senses, foot, quarter of a verse and one quarter in general) as well as in words like *pitarau* 'parents' (which combines *pitṛ* and *matṛ* by the special rule of Pāṇini "*pitā mātrā*" 1.2.70).

our purpose, it is important to note that the prescription of *ekaśeṣa* by Pāṇini was motivated by the idea that normally we should utter or use words separately in order to refer to separate individuals or objects. In other words, nominal words should be treated as proper names or singular terms referring to one individual or substance at a time. Thus, a single utterance of *vṛkṣa* 'tree' refers to a particular tree, and another utterance of *vṛkṣa* 'tree' refers to another tree, and a third utterance to a third. Now, tree 1, tree 2 and tree 3 are all different individuals as far as their *substance* is concerned. To put it more forcibly, we may define the word *X* referring to *A* and the word *X* referring to *B* as 'one word' *X* only for our practical convenience, but we should not forget that they are, in fact, two different tokens referring to two distinct entities. This is the conclusion to be derived from Pāṇini's rule 1.2.64 prescribing *ekaśeṣa*. The philosophical implication of this linguistic theory is, according to Helārāja, that the substance of an individual object, say, a tree, is that which is distinguishable through our use of the word 'tree' and in the absence of the *ekaśeṣa* operation people are expected to use two or more "tree" words to express the individual *substances* of two or more trees.

The general concept of quality was assumed by Kātyāyana (c. B.C. 300-200) when he explained the rule 5.1.119 of Pāṇini. He said that suffixes like '-*tva*' and '-*tā*' are expressive of quality. Hence, according to Kātyāyana, if *Y* is a quality which is possessed by a substance *A* and if because of *A*'s possession of *Y*, *A* is expressed by the word '*X*', then the word '*X*-tva' or '*X*-tā' (comparable to '*X*-ness' in English) will denote the quality *Y*.[1] This statement, according to Helārāja, presupposes the definition of quality as that which is dependent on some substance or other as its substratum.

Bhartṛhari proceeds to define the notion of substance as follows : Substance is that which is referred to by pronominal words like 'that' and 'this' and which is purported to be distinguished by virtue of its being expressed by some name or other.[2] Helārāja makes the following comments on this verse of

[1] "*yasya guṇasya bhāvād dravye śabdaniveśas tad-abhidhāne tva-talau*" Kātyāyana under *sūtra* 5.1.119.

[2] *Vākyapadīya*, Book III, chap. IV, verse 3.

Bhartṛhari. There are two types of pronouns. Some pronouns like 'everything', 'something', 'this' and 'that' range over our whole ontology (cf. *vastumātrābhidhāyinaḥ*). Other pronouns like 'another' and 'other than' are used in a comparative sense. Of these two groups, those belonging to the first are, according to Bhartṛhari, the basic media of reference to substances.[1] For example, 'this' refers to a substance which is presented to our perceptual field, and 'that' refers to something which is absent from our perceptual field but whose existence can presumably be proved by some other means of knowledge (*pramāṇāntara*). Thus, 'this' and 'that' range, in fact, over the whole domain of entities, i.e., substances, either perceived or unperceived. It is contended that the nature of each entity, i.e., each substance, is so peculiar and specific that we cannot expect to arrive at any general characteristic possessed by all of them except that they are objects of pronominal reference (of the pronouns of our language). Helārāja goes on to quote Yāska, the author of *Nirukta* (c. B.C. 400), in order to support this definition of substance by Bhartṛhari.[2]

The above definition of substance is based on a rather complex notion, the relation of reference. But Bhartṛhari approaches the problem of defining substance also from a commonsense point of view much in the same manner as Patañjali did in his *Mahābhāṣya*. Substance is regarded in this view as a relative concept being dependent upon our concept of quality (*guṇa*). A substance is that which is *bhedya* 'purported to be distinguished', and a quality is the *bhedaka*, i.e., that which distinguishes the substance.

Patañjali, under *Pāṇini-sūtra* 5.1.119, develops the concept of substance and quality in the following manner. By quality, Patāñjali means primarily the sensory qualities like sound, taste, colour, touch and smell. Substance, according to him, is some-

[1]We can get an important philosophical insight from this remark of Bhartṛhari. Any entity will be called a substance in this system. To be a substance means, according to Bhartṛhari, to be in the range of reference of a pronoun. Compare this with the remark of a modern western philosopher, W.V. Quine. "To be assumed as an entity is, purely and simply, to be reckoned as the value of a variable. In terms of the categories of traditional grammar, this amounts roughly to saying that to be is to be in the range of reference of a pronoun." *From a logical point of view* (Cambridge, Mass.) 1961, p. 13.

[2]"*etad eva nirukta-kāreṇāpy uktam, ata iti yat pratīyate tad dravyam iti*"— Helārāja's commentary, p. 141-42.

thing different from these qualities. It may be objected that we do not experience anything over and above these sensory qualities. If, for example, we cut an animal (that is, a so-called substance) into a million pieces it may be contended that we do not find or experience anything, apart from these sensory qualities. Thus, the concept of substance as something different from quality is merely a linguistic myth. Patañjali answers this objection by saying that substance is not only something which we can perceive, but also something of which we can prove the existence through inference. The kind of inference Patañjali uses to prove the existence of substance is called *sāmānyatodṛṣṭa*, in the terminology of ancient Indian logic.[1] Briefly we can describe this type of inference as a method by which we come to know of the existence of an unperceived object or event through parity of reasoning and analogy. Thus, the growth and decay of trees and plants are inferable from the gradual changes in their sizes, i.e., expansion and contraction of their bodies. A better example would be the inference of the movement of the sun, stars and planets. The movement of the heavenly bodies is not visually perceptible. But, by observing their positions and displacements at differnt times, we can infer their movement. The analogy which works behind this inference is this : we do see that the displacement and different positions of human bodies or earthly bodies result from their movements and we believe that the same law must hold good in the case of heavenly bodies.[2] In order to infer the existence of substance, Patañjali recommends us to proceed as follows :[3] If one takes an iron bar and a cotton-wool pad of identical size and shape, and weighs them, one sees

[1]*Nyāyasūtra* 1.1.5 mentions three types of inference : *pūrvavat*, *śeṣavat* and *śāmānyato-dṛṣṭa*. Opinions vary regarding the exact significance of this classification See § 1.4 above.

[2]Astronomy tells us that the sun and the stars are stationary objects. But here we are concerned with the commonplace inference of motion. We may substitute motion in this context by 'apparent motion'. In the case of planets such substitution is not even necessary. Another word of caution comes from Nāgeśa. Here we have to neglect the philosophical view according to which all types of motion lie beyond the scope of sense perception.

[3]Kaiyaṭa comments here that although substance is perceptible according to some philosophers, Patañjali is assuming the position of those who would deny the perceptibility of substance.

that the weight of the one is quite different from that of the other. What accounts for this difference in weight should be called substance. In other words, iron and cotton are two different substances which have different weights. We can distinguish between the substance of one object and the substance of another object also with reference to other properties. Thus, one object, viz. a sword will cut our body if it touches it, while another object, viz. a cotton garment, does not behave in the same way under similar conditions. This difference in behaviour should be ascribed to their difference as substance. Some object (say, a hammer) can break a body by a single stroke, while another object (say, cotton string) cannot break it even after a second or third stroke. Such differences are also to be ascribed to their differences as substance.

The above argument for the existence of substance has many flaws. It may be asked why the difference in behaviour or even in properties should be ascribed to the substance-hood of the objects. It is equally tenable that only sensory qualities or other qualities of objects are responsible for their different behaviour under similar conditions. Perhaps, what Patañjali meant by substance here is what is called *svabhāva* 'own nature' or inherent nature of objects—something which is unique to each object and consequently accounts for its peculiarities. Later commentators like Kaiyaṭa were deeply influenced by the Vaiśeṣika notion of substance and hence tried to explain this passage of the *Mahābhāṣya* by following the Vaiśeṣika definition of substance as a substratum of quality.[1]

Patañjali's second attempt to define substance can be stated as follows : Substance is the unchanging state of objects. Qualities emerge and disappear in order to make room for new qualities. What stays permanent amid all changes is what is called substance. It is the *tattva* or 'essence' of an entity. Thus, a mango fruit becomes green at one time and yellow or red at another time, but it still remains the same mango or, at least, we call it 'the same mango'. What remains unchanged is the mango-substance. This seems to be a more sophisticated attempt to establish substance as the permanent core of things. We have already discussed this notion of substance' in § 4. 1, 4.3.

[1]See Kaiyaṭa's *Mahābhāṣya-pradīpa*, commentary on Patañjali's *Vyākaraṇa-mahābhaṣya* (Gurukul Jhajjar, Haryana, India) 1963, vol. IV, p. 87.

The third attempt of Patañjali to define substance is, perhaps, more successful. A substances is a bundle of qualities, an integration of qualities.[1] The implication is that the integrated whole or the 'bundle' should be conceived as different from the constituent parts. This is, thus, consistent with the original assertion of Patañjali that substance is something different from quality. Nāgeśa quotes from *Yogabhāṣya*, where Patañjali is cited as holding the view that substance is merely a collection of qualities.[2] It may sound like a philosophical mystification to assert that a collection is different from its collected elements, but it is also undeniable that each element, taken individually, is not what a collection is meant to be. We should also note that the Vaiśeṣika notion of substance is slightly different from that of Patañjali. In the Vaiśeṣika system of categories, qualities, actions and even generic properties (universals) are supposed to be occurrent in substance, and the substance is said to be the substratum of all these properties. Not only that, but these properties are also tied to the substance by a real relation which is called the relation of inherence (*samavāya*). Thus, what is called 'substance' in the Vaiśeṣika school is not a 'bundle' or collection but a systematic whole having a theoretical structure of its own. It is a real entity, and *ex hypothesi* not dependent upon qualities etc. Rather, qualities etc. are said to be dependent upon substance for their existence. But, according to Patañjali's theory, one may say that the notion of quality is primary. A collection depends upon the collected elements, and hence a substance, being a bundle of qualities, depends upon the latter. As far as I can see, Kaiyaṭa in his commentary has missed this subtle distinction between the Vaiśeṣika concept of substance and Patañ-

[1]Cf. "*anvartham khalvapi nirvacanam—guṇasaṃdrāvo dravyam iti*"—Patañjali under *Pāṇini-sūtra* 5.1.119. Also : "*guṇa-samudāyo dravyam*"—Patañjali under *Pāṇinisutra* 4.1.3.

[2]There is a striking similarity between Patañjali's definition of substance and the Sāṃkhya-Yoga idea of substance. See Mallavādi's remark in his *Dvādaśāra-nayacakram* (ed : Muni Jambuvijaya, Bhavnagar, India) 1966, p. 303. This point is also relevant to the problem of identity of the two Patañjalis, the author of *Mahābhāṣya* and the author of *Yoga-sūtra*. See Surendranath Dasgupta : *A History of Indian Philosophy* (Cambridge) 1963, vol. I, p. 231-233. For a brief survey of the controversy over the identity of two Patañjalis, see P.V. Kane : *History of Dharmasastra* (Poona, India) 1962, vol. V, Part II, pp. 1395-99.

jali's notion of substance, and consequently, he has explained Patañjali as expounding the Vaiśeṣika notion of substance. It may also be noted that Patañjali wrote his Mahābhāṣya at a time when the Vaiśeṣka theories were as yet on the threshold of strict systematization. For this reason, care should be taken not to ascribe too much of Vaiśesika thought to Patañjali's writing.

Bhartṛhari conceived substance as something dependent upon the notion of quality. Substance is what is purported to be distinguished, and quality is the distinguisher. On the authority of Helārāja, we may say that this exposition of the notion of substance was in accordance with the philosophical view of Vyāḍi (the grammarian first mentioned by Kātyāyana). Vyāḍi held that words primarily refer to *dravya* (substance or individual essence) whereas Vājapyāyana (another grammarian also first mentioned by Kātyāyana) held that words refer to universal concepts. These two apparently opposing views were much discussed by the ancient Indian grammarians and philosophers.[1] Patañjāli elaborately discussed this controversy under *Pāṇini-sūtra* 1.2.64. In his conciliatory remarks, Patañjali notes that the meaning of a word has both aspects; it has a universal aspect, a descriptive feature, an adjectival or attributive[2] aspect, and it has a particular aspect, a substantial aspect or a location. Thus, while Vājapyāyana tends to emphasize the first aspect, Vyāḍi tends to emphasize the second.[3]

The concept of substance, as expounded by Bhartṛhari, is much wider. In fact, anything that is expressible by a noun or a substantive becomes a substance under his theory. Thus, if we

[1]See M. Hiriyanna, "Vyāḍi and Vājapyāyana", *Indian Historical Quarterly* (Calcutta) 1938, vol. 14, pp. 261ff. See also Gaurinath Sastri : *The Philosophy of word and Meaning* (Calcutta) 1959, chap. VII, pp. 136-71.

[2]*Guṇa* 'attribute' or 'quality' includes, in a broader sense, *ākṛti* 'universal'. Compare Kaiyaṭa's remark on *Mahābhāṣya* under *Pāṇini-sūtra* 2.1.1: "*kecid ācāryā dravyaṃ padārthaṃ pratipannāḥ, kecid ākṛtim/ guṇa-śabdenāpy ākṛtir ucyate / yathā yasya guṇasya bhāvād iti*"—vol. II, p. 540. See also Helārāja's remark: "*jāter api pāratantryād dravye samavāyād guṇatvaṃ uktam*"—Comm. on *Vākyapadīya*, Book III, chap. V (Benares) 1905, p. 145.

[3]Compare *Mahābhāṣya* under *Pāṇini-sūtra* 1.2.64: "*ubhayor ubhayam padārthaḥ kasyacit tu kiṃcit pradhānabhūtaṃ kiṃcid guṇabhūtam / ākṛti-padārthikasya ākṛtiḥ pradhānabhūtā, dravyaṃ guṇabhūtam / dravya-padārthikasya dravyaṃ pradhānabhūtam ākṛtir guṇabhūtā/*"—(Gurukul Jhajjar, Haryana, India) 1963, vol. II, p. 156.

use a substantive word to express a universal concept or a generic property (*jāti*), we should regard such a universal concept as a substance (*dravya*) inasmuch as it is intended to be distinguished by our use of the word.[1] Even the verbs may be supposed to express some universal or other, and by nominalization they can easily be shown to refer to a substance, in this extended sense of the term. Thus, 'cooking' would refer to the fact of cooking and 'walking' to the fact of walking as long as the speaker intends to distinguish the act of cooking from the act of walking. And in this sense, the fact of cooking becomes a *drāvya* 'substance' since it is purported to be distinguished (*bhedya*).

In verse 1 of the fifth chapter of the third book (*kāṇḍa*), Bhartṛhari proceeds to define *guṇa* 'quality' as a concept which is entirely dependent upon the concept of substance that we have just discussed. A quality is that which being intimately related (*saṃsargi*) to a substance differentiates that substance by delimiting its scope. That a quality serves to differentiate is reflected in such expressions as 'this is blue' and 'that is red'. The universal *gotva* (cow-ness or cow universal) is considered to be a quality, since it distinguishes cow-individuals from other individuals. In fact, Bhartṛhari rejects the rather technical Vaiśeṣika notion of quality and accepts the popular idea of a quality. In popular parlance, we conceive of a quality as something dependent on another thing.[2] A quality becomes a quality only insofar as it differentiates a substance; it does not become a quality as far as we think of it as qualified by another quality, nor does it become a quality when it is expressed as such by hypostasis. This is the significance of Bhartṛhari's expression *savyāpāram* as explained by Helārāja. (Compare : '*savyāpāram*' *avacchedakarūpeṇa pratīyamānaṃ guṇavyapadeśyam na rūpāntareṇetyarthaḥ*, p. 145).

The above verse of Bhartṛhari is quoted by Kaiyaṭa in his *Mahābhāṣya-Pradīpa* (a commentary on Patañjali's *Mahābhāṣya*) under *sūtra* 2 1.1. Nāgeśa, in his sub-commentary called *Uddyota*, explains this verse in a slightly different way. He reads the first two words of the verse as one compound word "*saṃsargi-bhedakam*" and explains that a quality is that which differ-

[1]See Helārāja : "*jātyādir api viśeṣyatvena ced vivakṣitaḥ tadā dravyam*" Comm. on *Vākyapadīya*, Book III, chap. IV (Benares) 1905, p. 142.
[2]See Helārāja : "*loke hi paratantro guṇa ity ucyate iti pratītir iyam*" p. 192.

entiates its locus or substratum.[1] 'Savyāpāram' is explained by Nāgeśa as follows : A quality is such that it invariably represents its substratum and by presenting its substratum it enters into the domain of meaning of the word which expresses that quality. Alternatively, a quality is such that it invariably presents all the individuals delimited by that quality.[2] There is, in fact, no fundamental difference between these two interpretations of quality. However Helārāja's interpretation seems to be a little more illuminating and useful.

The grammarians appear to have a commonsense approach to the notion of quality. The nature of quality is to qualify other things. A problem arises when we try to explain *Pāṇini-sūtra* 5.1.119 *tasya bhāvas tva-talau.* When the word *śukla* 'white' means a white thing, the abstract suffix *tva* (comparable to English "-ness") is added to this word to express the white colour, a quality. And when 'white' ('*śukla*') means white colour, a particular quality, the abstract suffix will be added to express white-universal, a generic property, whiteness. But when 'white' ('*śukla*') means white-universal, the addition of the abstract suffix *tva* is grammatically permissible, though it would only refer back to the same meaning, viz., white-universal. Similarly, when a proper name, say, '*Ḍittha*' (a proper name), is learnt for the first time, the addition of the abstract suffix is grammatically permissible. But, semantically it will behave as a personal name and will not express any quality, because no quality of the individual called '*Ḍittha*' has been learnt.[3] However, when one becomes familiar with the character and actions of the individual called *Ḍittha*, one singles out his 'essential' quality. And then, the addition of the abstract suffix will express that essential quality. Furthermore, if somebody is described as *vaktṛ* 'speaker', the implied sense of the word will be the quality of speaking, and the addition of the abstract suffix '*tva*' to it will express this implied sense. Sometimes, a certain relation is expressed by the abstract suffix and hence becomes a quality under this theory. Thus, the implied sense of the expression

[1]See Nāgeśa's *Uddyota* under *Mahābhāṣya* under sūtra 2.1.1.
[2]See Nāgeśa, ibid.
[3]See Helārāja : "evam cādyāyām śabda-pravṛttau Ḍitthādīnām api svarūpa eva bhāvapratyaḥ." p. 193.

rāja-puruṣa 'royal officer' is the property of being related to the king and this property is what is expressed by the corresponding abstract term *rāja-puruṣa-tva* 'royal-officer-ness'. We may change the example as follows : If something is called 'the morning star', the implied sense of this expression would be, as far as the Sanskrit grammarians are concerned, the star's property of being related to morning time—a quality which will be expressed by the corresponding abstract expression.

It is obvious that the Vaiśeṣika notion of substance and quality is different from that of the grammarians. The Vaiśeṣika notions are more or less system-bound, whereas the grammarians' approach is very empirical. Elsewhere I have indicated how the notion of substance and quality can be fruitfully used to formulate Sanskrit philosophical semantics. It is probable, therefore, that while the grammarians were aiming at defining 'semantic' categories, the Vaiśeṣikas were concerned with 'ontology'. I shall discuss this point further in the last section, § 5.5.

§ 5.3 : Grammatical Categories : A Navya-nyāya Appraisal

The philosophical insight that can be drawn from the writings of the Sanskrit grammarians seems to be considerable. It behoves us, moderners, to critically examine and reconstruct their philosophy of language and meaning, or what I have called their philosophical semantics. Some detailed works have been done by Dr. Radhika Herzberger (in her Toronto dissertation) and A. Chakrabarti (in his Oxford dissertation). It is significant to note that the theories of the grammarians were not unnoticed by the Nyāya writers, although the latter disagreed with the former on many issues. In this section, I shall present briefly how a Navya-nyāya writer, through an analysis of the Sanskrit language, constructs an alternative system of grammatical categories.

Jagadīśa belonged to the sixteenth century. He wrote several commentaries, well-known Navya-nyāya texts and a short manual of logic called *Tarkāmṛta*.[1] His sub-commentary on Raghunātha's *Tattvacintāmaṇi-dīdhiti* was the most important of them all. This

[1]D.C. Bhattacharya is doubtful whether this book was originally written by Jagadīśa. See his *Baṅge Navya-nyāya-carcā*, Calcutta, 1952, p. 168.

work is usually referred to by the scholars as *Jāgadīśī*.[1] Jagadīśa wrote another important book, an original work called *Śabdaśaktiprakāśikā*.[2] This book is also very popular among the traditional, orthodox scholars of India. The content of this book is of great interest to both the Naiyāyikas (the logicians) and the Vaiyākaraṇas (the grammarians). In traditional seminaries (ṭols or pāṭhaśālās) of India, this book is often included in the syllabuses of the degree in Nyāya and the degree in Vyākaraṇa. I shall give here an outline of the system of grammatical categories noted in this important book.

In an Indian background, the close relationship between grammar and logic (vyākaraṇa and nyāya) has already been emphasized by me.

A considerable portion of what is known as Navya-nyāya in India is concerned with what we may call the problems of 'logical grammar'. The task of this 'logical grammar' is to classify the significant parts of sentences and to discover rules which determine the notion of a 'meaningful sentence'. *Śabdaśaktiprakāśikā* is a book dealing with 'logical grammar' in this sense. There may be some obvious limitations in our using 'logical grammar' as a method in philosophy. There is the further limitation of this book, since it is concerned only with the peculiarities of the Sanskrit language. For the Sanskritists, however, Nyāya offers an alternative approach to Sanskrit grammar and semantics. Besides, Jagadīśa's account contains much material which deals with what may be called the 'universals' of language.

Word (*śabda*) or language is another means through which we obtain knowledge. It is different from both perception and inference, according to Nyāya. It is called *śābdabodha*. We may call it the 'linguistic' or 'verbal' way of knowing. What we know from linguistic utterances must be, in some sense, connected with what is meant by such utterances.

Jagadīśa offers a strong defence of the Nyāya theory that śābdabodha or our (hearers') knowledge of the 'meaning' of uttered sentences is derived from a source different from that of perception or inference.

It is derived from our knowledge of the syntactically connected

[1] Chowkhamba Sanskrit Series 29, Benaras, 1906-1908.

[2] Edited by Dhundhiraj Sastri with two commentaries, Kashi Sanskrit Series 109, Benares, 1934.

words (*sākāṅkṣa-śabda*). Usually, perception and inference are regarded as the two main sources of our knowledge.

The knowledge based upon authority can be reduced to some form of a disguised inference. The Navya-nyāya school, however, contends that when we listen to the utterance of a sentence and immediately understand what is meant (at least literally), we do not make any inference, nor do we perceive (through any 'mental' eye) what is expressed by the sentence. Our knowledge about the 'meaning' of a sentence is qualificative or propositional in the sense that one entity appears here as qualified by another. The meanings of individual words or word-components are distinct, and *hence stand in an isolated glory.* In a sentence-meaning on the other hand, they are modified in such a way as to appear as connected and organized in a determinate structure. Nyāya is, therefore, reluctant to accept the knowledge of this connected sentence-meaning as arising on the basis of the cognition of some inferential mark (*liṅga*).

What takes the place of the inferential mark (*liṅga*) here is simply an uttered sentence : "The hill has fire." The inferential knowledge, to be sure, follows from a premiss called *parāmarśa*, which may be of either forms, "the hill has smoke which is pervaded by fire," or "there is smoke, which is pervaded by fire, on the hill," giving rise to either forms of inferential knowledge-episode : "the hill has fire." or "there is fire on the hill." The inferential situation itself cannot determine or regulate which form the resulting knowledge would take. These are two different knowledge-episodes, for, they have two different structures, although their propositional content may mutually imply each other (and hence be equivalent). The uttered sentence, "the hill has fire" would, however, yield a knowledge-episode with a determinate structure. Hence, it is arguably distinct from an inferential situation.

Since our knowledge of the sentence-meaning is derived from what Nyāya calls meaningful words or significant word-components, Jagadīśa tries to define the concept of 'significant word' (*sārthaka-śabda*). A word is to be considered significant if it can generate in the hearer the cognition of what is meant only in collaboration with another syntactically related word. Jagadīśa's problem here is to distinguish the concept of 'significant word' from the concept of 'significant sentence'. A significant sentence

is, according to Nyāya, a cluster of syntactically connected words that have a combined meaning of which a part must be an inflectional meaning.[1] Thus, even an expression like "ghaṭam" is considered to be a sentence (*vākya*) because it may generate cognition of its meaning with the help of an inflectional meaning. But the stem "*ghaṭa*-(*pot)[2]" is a word because it cannot generate cognition of its meaning without being in collaboration with some inflection like "*-am*" (the accusative). Although the meaning of a sentence like "ghaṭam" is not linguistically complete, it can be said, from the Nyāya point of view, to be logically complete. Logically, a propositional cognition needs only a qualifier to qualify a qualificand. The said sentence, even when it is unaided by other words, may generate a cognition of the form '*karmatvaṁ ghaṭīyam*' (the accusative function belongs to the pot). In other words, the generated cognition will construe the pot (meaning of the stem) as the qualifier of the accusative relation (meaning of the inflection). And thus, we have an 'atomic' but logically complete 'propositional' cognition having a qualifier-qualificand structure. Jagadīśa further contends that even an incompatible compound-word like "śaśa-viṣāṇa-(*rabbit-horn)" is a significant word, inasmuch as it can generate a false cognition of the horns being related to some rabbit. (See also § 5.5.) Since, only with the help of some inflection, will such a compound be usable in language, we cannot, however, call this compound-base a sentence. For the combined meaning will not have any inflectional meaning as its part.

Jagadīśa classifies the significant word-components into three types : the inflectable word-base.[3] or the lexical items (*prakṛti*), inflections (*pratyaya*), and the invariant words (*nipāta*). The *prakṛti* or the inflectable word-bases like "*ghaṭa* (*pot)" and "*cal*-(*move)" enjoy some sort of primacy over the inflections (*pratyaya*) like "*-s*" (the nominative) and "*-ti*" (the present singular indicative) in the sense that, in order to merge the

[1]On the notion of *vākya*, see following section § 5.4.

[2]Since the English equivalent of a Sanskrit word-base will be indistinguishable from that of Sanskrit inflected word, I shall mark the English equivalents of Sanskrit word-bases with asterisks.

[3]To note one terminological quirk : a word-base is, in fact, a kind of word or *Sārthaka-śabda*.

'meaning' of a word-base (viz., the object 'pot' or the action moving) into the sentence-meaning, we need to have a decision (*niścaya*) of the actual word-base itself ("*ghaṭa*-" or "*cal*-") being associated with some inflection. A word-base contributes its meaning to the sentence-meaning in an independent way, while an inflection contributes its meaning in a dependent way. An invariant word like "*ca* (*and)" or "*vā* (*or)" also enjoys some independence in this matter. But there is another syntactic feature which distinguishes an invariant word from a word-base.

Word-bases are of two types : nominal base or stem (*nāma*) and verbal base or root (*dhātu*). It is contended that a nominal base like "*ghaṭa*-(*pot)" or a verbal base like "*cal*-(*move)" can have an identity of reference with another word-base like "*nīla* (*blue)" or "*mṛdu*-(*slowly)" respectively. The implicit semantic principle is that the adjective and the adverb present or designate the same entity as is presented or designated by the noun and the verb they modify respectively. But an invariant word lacks this privilege. It is said that an invariant word cannot relate its meaning by identity-relation to the meaning of any other word-component in the sentence.

A nominal base is also called *prātipadika*. Jagadīśa resorts to some complicated device in order to mark off the difference between the concept of a nominal base and that of a verbal base. A nominal base needs the assistance of the nominative terminal inflection in order to generate a cognitive meaning with its own meaning as the chief qualificand (*mukhya-viśeṣya*).[1] A verbal base needs the assistance of an 'agent' inflection "-*tṛc*" (resembling the English- "er") in order to generate a cognitive meaning with its own meaning as the qualifier.

Nominal bases are divided into four groups from the point of view of their semantic function. One is called *rūḍha*, viz., the class of words that express only conventional meaning in a sentence. Word-bases like "*gau*- (*cow)", in the sentence "*gaur asti* (there is a cow)", fall under this class. The second group is called *lakṣaka*. Words of this class convey metaphorical or secondary meaning in a sentence. Nominal bases like "*gaṅgā*-(*Ganges)" in the sentence "*gaṅgāyāṃ ghoṣaḥ*" (a village on the Ganges; compare in English "New Castle-upon-Tyne") fall in this class, because "*gaṅgā*" conventionally means a particular river,

[1]See *The Navya-nyāya doctrine of Negation*. p. 15.

while in this sentence the same word has to be interpreted as meaning the riverside. The third group is called *yogarūḍha*. Words of this class agree with the derivative sense, i.e., with the combined meaning of the sub-components, but at the same time express, by convention, only a special object which may agree with the derivative sense. A word like "*paṅkaja-* (*born-in-mud)" should have expressed anything that is born in mud, but, conventionally, its meaning is so fixed that it expresses only the lotus which happens to be born in mud. The reason for narrowing down of the scope of reference in this way may be found in the forgotten history of the language development. The fourth group is called *yaugika*. Words of this class retain their derivative sense, i.e., agree fully with the combined meaning of their sub-components. Thus, "*pāṭhaka-* (*reader)" means anybody who reads. It may be noted that the composite word-base "*pāṭhaka-* (*reader)" is not to be regarded as a sentence, but when an inflection, viz., a case-termination, is added it becomes a sentence in the Nyāya sense of the term. (The inflectional meaning must form part of the combined meaning of a sentence.)

A word of the first group, i.e., a conventionally meaningful nominal base (*rūḍha-nāma*), is also called a *saṁjñā*. These nominal bases have denotative power (*śakti*) in the primary sense. They can refer to the individuals through some attributes or universals. The grammarians like Patañjali classified these words into four types. There are some that signify class-characters or generic properties (*jāti*) as attributes. The word "gau-(*cow)," for example, refers to cow-individuals through the generic property cow-ness (*gotva*). The grammarians say that "gau-(*cow)" is *gotva-vācaka*, i.e., it expresses, (designates, signifies or represents) cow-ness. There are other words which signify *dravya*, i.e., (material) substance. For example, the word "*āḍhya-* (*wealthy)" signifies wealth or money, which is a substance. The third class of words signifies qualities, e.g., "*nīla-* (*blue)" which signifies blue colour. The fourth class of words signifies action (*kriyā*), e.g., "*cala-* (*moving)" which signifies motion. To put it in another way, we may say that "*gau-* (*cow)" picks out an individual which has cow-ness (a *jāti*) while "*āḍhya* (*wealthy)" picks out an individual which possesses wealth or money (a *dravya*, substance) and "*nīla-*

(*blue)" picks out an individual which has blue colour (a quality) and "*cala*- (*moving)" picks out an individual which possesses movement (*kriyā*). Jagadīśa points out that this fourfold classification was also endorsed by Daṇḍin, the Ālaṅkārika.

This fourfold classification of the grammarians is rejected by Jagadīśa, because, as he says, it fails to make room for such words as "*mūka*- (*mute)," which signifies neither a generic character, nor a quality, nor an action, nor a substance. This word picks out an individual which is characterized by the absence of speech. Thus, we may say that it signifies an absence as the distinguishing attribute of the individual it picks out. We have already noted that the Nyāya school regards the absence of anything as an attribute much in the same sense as the so-called positive attributes, such as, cow-ness and blue colour (§ § 2.3, 2.6).

Jagadīśa favours a threefold classification from the point of view of a different principle of division: 1. *naimittikī saṁjñā*, i.e., words or nominal bases which pick out objects by attributing to them some generic character or other; 2. *pāribhāṣikī saṁjñā*, i.e., words which pick out objects by attributing some singular property to them; 3. *aupādhikī saṁjña*, i.e., words which pick out objects by attributing some imposed condition or property (*upādhi*). Since Nyāya believes that some universals like cow-ness constitute real generic properties apart from the individuals where they are instantiated, words like "*gau*- (*cow)" are said to attribute cow-ness etc., to the individuals they describe. A singular name like "*gagana*- (*the sky)" belongs to the second group, because it attributes a singular property to the individual. Other common names like "*dūta*- (*messenger)" belong to the third group, because individuals denoted by them are grouped together by some imposed condition such as, the property of carrying message. Incidentally, this shows that Navya-nyāya does not regard all class-characters as real universals. This, in fact, corresponds to the division of terms into singular and general, with the proviso that the meanings of some general terms (natural kinds) are to be construed as (real) universals, while those of others are only provisional and constructible properties (cf., *upādhi* = imposed property).

Under *yaugika* words, Jagadīśa elaborately discusses various types of compounds (*samāsa*) and derivative words (*kṛdanta* and

taddhitānta). He also observes that there is another way of dividing the nominal bases (*nāma*). From the point of view of grammatical gender, we may divide them into three : the masculine, the feminine and the neuter. Here he refers to the interesting grammatical theory that gender-suffixes form an integral part of the nominal bases.

Turning to verbal base, Jagadīśa classifies them into three: 1. *gaṇokta* or atomic roots, i.e., those that are enumerated in the list of roots given by the grammarians[1]. 2. *yaugika* derivative roots, i.e., those that are formed from atomic roots and inflections; 3. the "*sautra*" roots or those that are either mentioned in the grammatical rules of Pāṇini or current in language as roots but not listed. This third group evidently accounts for those roots which are new roots (like "*hindol-*" and "*āndola-*") added to the lexicon as the language grows through history. Incidentally, Jagadīśa seems to be indifferent to the fact that even a verbal base can have a contextual meaning, i.e., metaphorical or secondary meaning depending upon the context or linguistic environment, which is not the same as its primary meaning. Probably he accepts the maxim that any root can have a multitude of meanings (cf., *anekārthā hi dhātavaḥ*), one or the other of which becomes relevant to the context. Or, perhaps, he thinks that it is more suitable to talk about the contextual meaning of the nominal bases formed from roots rather than talking about the contextual meaning of roots themselves.

Inflections (*pratyaya*) are of four types: *vibhakti* (terminal inflection or ending), *dhātvaṁśa* (inflection that forms derivative roots from atomic roots, such as "*-san-*" or the desiderative suffix), *taddhita* (inflections forming new nominal bases from atomic nominal bases), and *kṛt* (inflections forming word-bases from atomic roots). The meanings of inflections are, in general, related to the meanings of the word-bases, to which they are added, by the subject-predicate (*uddeśya-vidheya*) structure. In other words, the meaning of the word-base (such as, a pot) qualifies the meaning of the terminal inflection (such as, the accusative relation). A *vibhakti* or terminal inflection can be either a *sup* (that which is added to a nominal base) or a *tiṅ* (that which is added to a verbal base). In this connection,

[1]Cf., Dhātupāṭha; see O. Bohtlingk, *Pāṇinis Grammatik*, Leipzig, pp. 61-84.

Jagadīśa defines and describes in detail different case-relations as well as the semantic significance of each tense-suffix and mood-suffix. Jagadīśa's discussion may very well be compared with that of Bhartṛhari in the third Kāṇḍa of his *Vākyapadīya*.

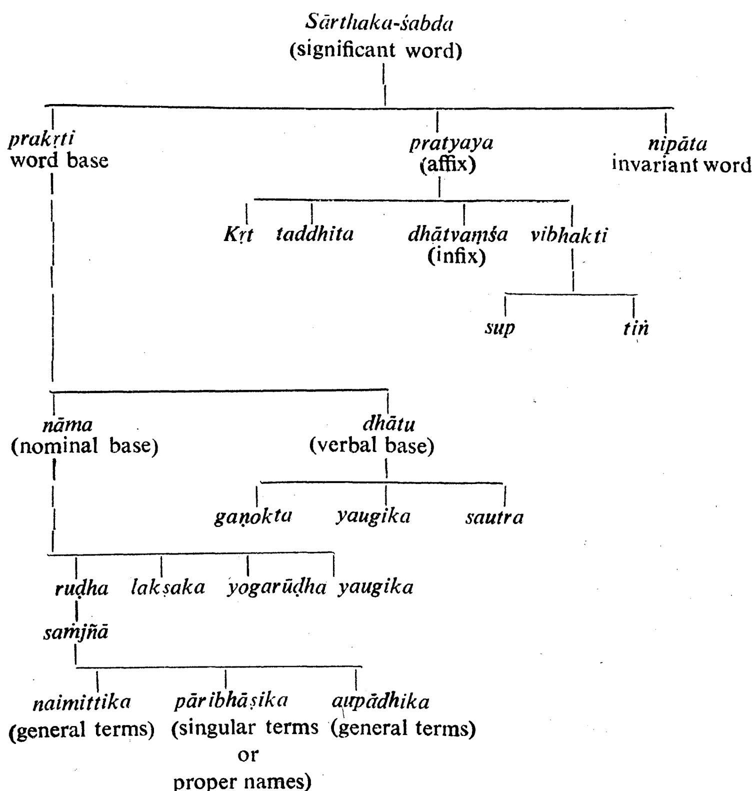
Jagadīśa has sometimes suggested some improvement of the prevalent Nyāya theories. For example, he is critical of Gaṅgeśa's definition of *Lakṣaṇā* (metaphorical meaning-function)[1] and gives his own improved version of it.[2] As a Naiyāyika, he frequently criticizes the Prābhākara views. He refers to Patañjali, the author of the *Mahābhāṣya* as an authority, in some places, although he rejects Patañjali's fourfold classification of the conventionally meaningful nominal bases. He often quotes from Bhartṛhari. There is one particular verse which he quotes and ascribes to Bhartṛhari, but, which is, in fact of doubtful authenticity.[3] It may be that Jagadīśa did not have direct acquaintance with the complete work of Bhartṛhari.

Jagadīśa's classification is very systematic and quite helpful for the description of the Sanskrit language. He carefully avoids cross-division or wrong classification. He tries to scrupulously define each concept so that each sub-class will be distinct and well-defined. Since he tries to logically define the basic categories which we generally grasp through intuitive notion, his definitions tend to be highly complicated. But this does not detract from the merit of his contribution to "logical grammar". I like to present here Jagadīśa's taxonomy of grammatical categories as understood by the following tree:

[1]See *Tattvacintāmani*, Edited by Pt. Kamakhyanath Tarkavagisa, Calcutta, 1884-1901, vol. IV, pp. 66 off.

[2]See *Śabdaśaktiprakāśikā*, pp. 136-39.

[3]Ibid., p. 389.



§ 5. 4 : The Notion of the Sentence (Vākya)

What is a sentence (*vākya*) ? The question is relevant to linguists but also to philosophers, especially to those philosophers who work on the borderlines of logic and language. The Sanskrit grammarians propounded theories about the nature of the sentence (*vākya*) and disputed with the Naiyāyikas (and philosophers sympathetic to the Nyāya system), who held opposite views. I shall discuss those divergent views and explain some important concepts used in their analysis.

In general, the philosophers of ancient and mediaeval India chose Sanskrit as their vehicle of expression. Thus, their views,

especially, those about logic and the philosophy of language, were, to a considerable extent, influenced by the peculiarities of the Sanskrit language. Some of their views can be better understood and explained by relating them to the structure and nature of Sanskrit. This should not be regarded as a drawback because one may very well try to reconstruct a general theory of language from their specific remarks. Moreover, it may be interesting and sometimes important for philosophers of language to notice how difference in structure, idiom and vocabulary may eventually cause a difference in the corresponding philosophical theory. It goes without saying that the existence of many natural languages with radically different structural and logical characteristics offers opportunities for logical exploration of 'ways of thinking' far more diverse than those found in any one of them singly. We have seen an illustration of this general point in the previous section. The present section will supply another illustration of the same point.

Kātyāyana defined sentence (*vākya*) as follows : a sentence is that [cluster of words] which possesses a finite verb [as an element][1] The expression used in this definition (viz., *eka-tiṅ*) is a Sanskrit compound consisting of two elements (*eka* = one, *tiṅ* = [word with] verbal ending). This expression suffers from some ambiguity which is shared by most Sanskrit compounds. It might be interpreted as a *tatpuruṣa* (i.e., *karmadhāraya*) compound, in which case the meaning would be that a sentence is what consists of one finite verb. Such an interpretation will, however, be inappropriate, and hence, should be rejected, since it would only include expressions like *pacati* ("...cooks" or "...is cooking") under the class of sentence. On the other hand, if the expression *eka-tiṅ* is interpreted as a *bahuvrīhi* compound, the meaning would be that a sentence is that (cluster of words) which contains one finite verb as an element. The second interpretation is appro-

[1]*eka-tiṅ vākyam*; this is a *vārttika* of Kātyāyana. See *Mahābhāṣya* under *Sūtra* 2.1.1. A close study shows that there is a difference between the views of Paṇini and Kātyāyana regarding the definition of sentence; the former could think of more than one *tiṅ* in a sentence (*cf. tiṅṅ atiṅaḥ*, 8.1.28) whereas Kātyāyana took *eka-tiṅ* as a sentence. The distinction between this and the Mimāṃsā definition based on *ākāṅkṣā* (*cf. arthaikyād ekaṃ vākyaṃ sākāṅkṣaṃ ced vibhāge syāt : Jaimini-sūtra* 2.1.46) was discussed by Bhartṛhari and his commentators. See *Vākyapadīya* II, 3-4.

priate, and hence, has been accepted by the commentators. But this also might lead to difficulties because one might ask whether such expressions as *paśya mṛgo dhāvati* ("look, a deer runs") etc. which contain more than one finite verb should be regarded as *one* sentence or several sentences put together, or no sentence at all.

This problem, however, is connected with the notion of *singleness* of sentence or sentence-unity (*ekavākyatā*)—a concept frequently used and discussed by Indian philosophers. I shall return to this point later.

Kātyāyana's definition was, perhaps, intended to emphasize the importance of the function of finite verbs in each sentence. Thus, Patañjali remarked that there is no sentence which lacks a finite verb. According to this interpretation, containing a finite verb is a necessary condition for being a sentence.

Our point here is that the early Indian grammarians attempted to define the notion of the sentence empirically, using what may be called a formal criterion and without ostensibly referring to the meaning-content of the sentence. It may be remarked, however, that, perhaps in order to combat different philosophical theories of language, some later grammarians, even of the Pāṇinian school, not only brought in semantic notions but also used metaphysical concepts in explaining and defining grammatical categories. Thus, in India, grammarians and philosophers created a common ground for discussing issues of common interest.

It is clear, however, that the Indian grammarians used the notion of *word* (*pada*) in defining the notion of sentence. One might say that, in order to define the notion of *word* it would be necessary to take semantic criteria into account. But, in a highly inflected language like Sanskrit, this need not be so. Paṇini (*c.* fourth century B.C.) defined *pada* or word as that which has either a verbal inflection or a nominal inflection[2], and, thus apparently, used a formal criterion. Gautama, the propounder of the Nyāya school of philosophy, also supported this definition

[1]*na hi kriyā-vinirmuktaṃ vākyam asti : Mahābhāṣya*, ibid.

[2]*suptiṅantaṃ padam : Pāṇini-sūtra* 1.4.14. It may be noted here that Pāṇini also gave several definitions of *pada* in subsequent *sūtras*, e.g. *svādiṣv asarvanāmasthāneṣu* : 1.4.17. But these were required for specific purposes, e.g. for contrasting *pada* with another technical term.

and asserted that a *pada* or word is any sound-sequence which has inflection (*vibhakti*).[1] As is clear from the previous section, in Sanskrit each constituent element of a sentence takes either a verbal, i.e., conjugational inflection, in which case it becomes what we call a finite verb, or a nominal, i.e., declensional inflection, in which case it is said to belong to the *non-verbal*, i.e., *nāma*, category, which includes substantives, adjectives, verbal adjectives, participles, and even adverbs. Although prepositions, e.g., *upasarga, nipāta* etc., do not seem to have declensional inflections, theoretically they are supposed to possess zero-occurrences of nominal inflection. The Sanskrit name for them is *avyaya,* which is interpreted as that which undergoes no modification regardless of gender, case and number.[2] I have called them invariant words in the previous section. Hence, a formal definition of *pada* or word can somehow be obtained within Pānini's theory of grammar.

The later Naiyāyikas suggested the use of only semantic criteria in order to determine what is *pada.* Contrary to what even Gautama said, they defined *pada* or word as the meaning-bearing element of a sentence.[3] An "atomic" *pada,* according to them is the smallest meaning-bearing phoneme sequence. A "complex" *pada* is formed out of several "atomic" words or *padas.* According to this theory, even an affix or suffix should be called a *pada* or word, provided one can assign some significance to it. Thus, *pacati* (="cooks" or "is cooking") is, according to them actually formed out of two constituent *padas,* a root, *pac-a,* meaning the operation of cooking (*pāka*) and a suffix, *-ti,* signifying *prayatna,* i.e., the *mental* (as opposed to *physical*) effort of the person concerned. We may note that *pacati* was regarded by them as a sentence (*vākya*), rather than a *pada.*

Amarasiṃha (*c.* fourth-fifth century A.D.), a well-known lexicographer, gave the following lexical definition of sentence :

[1] *te vibhaktyantāḥ padam : Nyāyasūtra* 2.2.60.

[2] The verse which is often quoted to describe *avyaya* is

sadṛśaṃ triṣu liṅgeṣu sarvāsu ca vibhaktiṣu/
vacaneṣu ca sarveṣu yan na vyeti tad avyayam//

"that which is similar in three genders and undergoes no change in any case-terminations and in any number-suffixes, is called *avyaya.*"

[3] *śaktaṃ padam :* Annaṃbhaṭṭa, *Tarkasaṃgraha* (A. Foucher, *Le Compendium des topiques,* Paris, 1949, p. 152).

a sentence is a cluster of verbal and non-verbal words.[1] One may wonder whether a cluster of only finite verbs or nominal words, e.g., *gaur aśvaḥ puruṣo hastī* ("a cow a horse a man an elephant"), constitutes a sentence. This objection can be met, if one wishes, by a careful formulation of the definition. It differs from Kātyāyana's definition only in that it does not stress that a finite verb must be present in a sentence to make it a sentence. By a slight shift of emphasis one might as well say that any cluster of words (no matter which grammatical category they belong to) may constitute a sentence. Some of the later Naiyāyikas did, in fact, accept such a definition of sentence.[2] In such a definition of sentence, apparently, neither semantic nor syntactic considerations have any part to play. We have already noted it in § 5.3. As I have remarked before, the notion of word, according to the later Naiyāyikas, depends on semantic criteria. This was not the case in Amarasiṃha's definition.

The important point, then, in which the grammarians differed from the Naiyāyikas, is this : The latter did not, while the former did, think that the verbal element, i.e., the finite verb, is essential for constituting a proper sentence. This requires clarification, particularly in a language like Sanskrit, where the verb 'to be' is seldom used in normal categorical sentences, words in which can be purely nominal. If we place nouns (i.e., substantives) and adjectives side by side, a Sanskrit sentence (grammatically correct as well as idiomatic) will result, e.g.,

ghaṭo nīlaḥ "the pot (is) blue"
naro 'yaṃ na sundaraḥ "this man (is) not handsome".

Nominalizing transformations by using convenient verbal adjectives, adjectival phrases, word-compounds, etc., which are formed directly or indirectly from some verb or other, are so common in good Sanskrit as to make the use of a finite verb redundant in many contexts. Thus, we have

rāmo vaktā "Rāma (is) the speaker" = "Rāma speaks"
devadattaḥ kṛṣṇa-śritah "Devadatta (is) the one who has resorted to Kṛṣṇa" = "Devadatta has resorted to Kṛṣṇa"
sa bhāravāhī "he (is) a weight-carrier" = "he carries weight".

[1] *sup-tiṅ-anta-cayo vākyam* : *Amarakoṣa,* s.v.
[2] *vākyaṃ pada-samūhaḥ* : Annaṃbhaṭṭa, op. cit.

Such prevailing features of the Sanskrit language may have led the Naiyāyikas in India to think that a finite verb is not essential to a normal sentence.[1]

There are numerous examples of Sanskrit sentences where a finite verb does not appear at all. To explain such cases, the grammarians appealed to their notion of zero-occurrence of grammatical elements. According to them, a finite verb ('to be', for instance) is not only to be *understood* in such contexts but is to be regarded as constituting the chief element when the meaning of the whole sentence is considered. The Naiyāyikas offered a different method of analysis. According to them, to imagine a finite verb (viz. 'to be') to be always understood in a good many sentences is an unrewardingly complex procedure, springing from a mistaken idea about the function of the finite verb in a sentence. If the juxtaposition of even several *non-verbal* words is sufficient to make an assertion and constitutes what is called a *grammatical* sentence, it would be wrong, so the Naiyāyikas argued, to drag in a finite verb to perform a task which is no longer required. They also cited some peculiar examples where it would apparently be impossible to add any particular finite verb to the sentence. For example,

(1) *trayaḥ kālāḥ* "three the time-stages viz., past, present and future)".

Here, according to the Naiyāyikas, it would be incorrect in Sanskrit to postulate the present plural form of the verb *as* (="to be"), because this can be correctly applied to one time-stage only, viz. the present, and not to the other two.[2] Similarly, for the future plural form or the past plural form. To drag in three singular finite verbs, one in the past, one in the present, and

[1]Cf. J.F. Staal, 'Reification, Quotation and Nominalization.' in : *Logic and Philosophy : Essays in honour of I.M. Bocheński*, Amsterdam 1965, pp. 151-87

[2]*cf. Nyāyakośa*, Bhimacharya Jhalkikar, Poona, Bhandarkar Oriental Research Institute, 1928, p. 876 line 16-23. Although according to the Naiyāyikas example (1) is perfectly in order, and not just an elliptical sentence where we have to supply the omitted words for the completion of the sense. The present tense is also used to denote the non-temporal; see e.g. J. F. Staal, 'Philosophy and Language', in *Essays in Philosophy presented to Dr. Mahadevan*, Madras 1962, p. 10-25. It could, therefore, be argued that only the present tense form need be supplied.

one in the future (including one *ca* "and"), could only be prompted by an obsession for finite verbs. Some grammarians have defended their theory by saying that in example (1) one should supply the finite verb *jñāyante* ("are known"), i.e., the present plural passive form of the root *jñā* ("to know"). But, according to the Naiyāyikas, this defence was based on a misconception of the significance of counter-example (1) Counter-example (1) derives its force in the context, because it is used as an answer to the question *kati kālāḥ* ("how many time-stages [are there] ?"). Hence, the rejoinder misses the point. (It is only for the sake of English that I am adding "are there" in brackets.)

The grammarians seem to have thought of their definiendum as the set of sentences that are grammatically acceptable. Whether this included semantically unacceptable sentences is not clear from the definitions we have so far considered. When, however, proper attention was given to this problem, the grammarians needed other criteria. Judging from the remarks of some Naiyāyikas, on the other hand, their notion of sentence seems to include not only the set of grammatical sentences, whether semantically acceptable or not, but also the set of sentences that are both ungrammatical and meaningless. This is very lavish theory, and its usefulness may be questioned. This was the view of some Naiyāyikas. They also divided sentences into two groups, viz., *pramāṇa vākya* or 'acceptable' sentences and *a-pramāṇa vākya* or 'non-acceptable' sentences. The *pramāṇa* sentences are meaningful as well as grammatically correct; the *a-pramāṇa* sentences cover the rest, which consists of sentences either ungrammtical, or semantically unacceptable, or both.[1]

The Naiyāyikas used specific criteria to decide whether a cluster of words or a sentence will be both grammatically and semantically acceptable, or, to use their own terminology, to decide whether a sentence will generate a cognitive meaning or cognition (cf. *śābdabodha*) in an "ideal" hearer. For a sentence

[1]Compare : *vākyaṃ dvividhaṃ pramāṇa-vākyaṃ a-pramāṇa-vākyaṃ ceti/ tatra pramāṇavākyaṃ ākāṅkṣa-yogyatā-saṃnidhimatāṃ padānāṃ samūhaḥ/ ...a-pramāṇa-vākyaṃ tu ākāṅkṣādi-rahitaṃ vākyaṃ/ : Nyāyakośa* p. 730. Here a *pramaṇa* sentence is said to be a cluster of words which possesses *ākāṅkṣā, yogyatā*, and *āsatti*, whereas an *a-pramāṇa* sentence is said to lack either any one or any two or all three of these. In the next section, however I shall suggest a different classification.

to generate a cognitive meaning, it is necessary that the *ideal* hearer should have (*a*) a cognition of what is called *yogyatā* or semantical competency, (*b*) a cognition of what is called *ākāṅkṣā* or expectancy, (*c*) a cognition of *āsatti* or contiguity (in space and time), and perhaps also (*d*) a cognition of *tātparya* or speaker's intention. The fourth condition is particularly needed in order to disambiguate an otherwise ambiguous expression.

All these concepts have a long history of development. They were redefined and modified by many authors at different times. There was a theory, favoured by some grammarians and *ālaṃkārikas*[1] as well as by some Naiyāyikas, which maintained that a sentence should be defined as that cluster of words which possess the three properties *yogyatā* (semantical competency), *ākāṅkṣā* (syntactic expectancy) and *āsatti* (contiguity in space and time).[2] A comparatively late view among the Naiyāyikas was that these properties, viz., *yogyatā*, etc., were themselves *directly* responsible for generating *śābdabodha*, i.e., for the knowledge of the meaning of a sentence.[3] I shall not expound each of these concepts here in detail[4] but briefly refer to them in connection with the notion of meaningful and grammatical sentences.

The concept of *yogyatā* has sometimes been defined as the compatibility of one object (or, rather the absence of the absurdity or incompatibility in one object) with another object in accordance with the syntactical (grammatical) connection of the respective words denoting those objects. What was meant by this may become clear from examples. It was argued that the sentence

(2) *vahninā siñcati* "(he) sprinkles (the field) with fire"

[1]I.e. rhetoricians, such as, Viśvanātha and Mammaṭha.

[2]Cf. *vākyaṃ tv ākāṅkṣā-yogyatā-saṃnidhimatāṃ padānāṃ samūhaḥ* : Keśavamiśra, *Tarkabhāṣā*, Poona, Oriental Book Agency, 1953, p. 16.

[3]Usually two different views are mentioned in this connection. The older view is : we know the meaning of a sentence, when we have already known such properties like expectancy (*ākāṅksā*) etc. possessed by the sentence. The later view is : we know the meaning of a sentence if that sentence possesses such properties, *viz.*, expectancy etc. Compare : *itaḥ sarve svarūpasantaḥ śābdabodhe hetavaḥ na tu jñātā iti jñeyam* : Jānakīnātha, *Nyāyasiddhāntamañjarī*, IV, Benares, 1885. ("It is to be acknowledged that all these are causes of *śābdabodha* (directly) by themselves, (and) not (that they become causes only when they) are known.")

[4]They have been discussed in detail by K. Kunjunni Raja in his *Indian Theories of Meaning*, Madras, Adyar Library Series 91, 1963, pp. 151-87.

lacks *yogyatā,* while the sentence

(3) *jalena siñcati* "(he) sprinkles (the field) with water".

possesses *yogyatā.* It may be noted that both (2) and (3) are grammatically acceptable, but while (3) is also semantically acceptable, (2) is not. So *yogyatā,* semantical competency, is what differentiates a grammatically acceptable but semantically non-acceptable sentence from a semantically acceptable one. In (2), since fire cannot be said to be a *fit* object to sprinkle with, fire is said to be 'incompatible' with the activity of sprinkling. That sprinkling is to be so related to fire is what is intended by the instrumental construction. Thus, although grammar allows (2), *śābdabodha* or knowledge of the meaning of the sentence will not be generated by it because it lacks the property *yogyatā.*

Expectancy or *ākāṅkṣā* may originally have meant the desire or expectation on the part of the listener roused by the incompleteness of an utterance. But in grammar and philosophy it gradually came to be identified with the syntactic property which a sentence lacks when it is not 'grammatical.' Gaṅgeśa defined it as the accompaniment of one string *x* with another string *y* in such a way that *x* would not generate congnition of the meaning (*śābdabodha* or *anvayabodha*), unless accompanied by *y*[1]. The Sanskrit example.

(4) *ghaṭam ānaya* "bring a pitcher"

is said to possess the property *expectancy,* because the verb *ānaya* ("bring") is accompanied by an accusative or *karma* viz., *ghaṭam* (a pitcher"), the *agent* (*kartṛ*) or vocative being understood as usual (i.e., because the utterance is in the imperative mood). Furthermore, the string *ghaṭa* (the nominal stem of 'pitcher') is 'grammatically' acceptable in (4), only because it is associated with the accusative ending *-am.* If this ending was not used and a word expressing the relation of accusative or *karma* was used instead, other things remaining the same, the whole string would be regarded as disconnected and ungrammatical. The counter-example which is said to lack expectancy is given as:

[1]Cf. *yasya yena vinā svārthānvayānanubhāvakatvaṃ tasya tatpada-saṃnidhānam* : *Tattvacintāmaṇi* IV, Asiatic Society, Calcutta.

(5) *ghaṭaḥ karmatvam ānayanaṃ kṛtiḥ* "a pitcher, to be an accusative, bringing, an effort".

This is ungrammatical, since it violates syntactic rules of the language. But is it a meaningful expression? It is contended that knowledge of a "connected" meaning of the whole is not possible here, because the discrete elements do not have any *syntactic* relation to each other.

The property *āsatti* or contiguity refers to absence of any unnecessary intervention or interval (*temporal* when the string is uttered, and *spatial* when it is written) between word-elements of a sentence. As a counter-example which lacks this property we sometimes find:

(6) *girir bhukto vahnimān Devadattaḥ* "the hill has eaten has fire Devadatta".

This sounds nonsensical even in Sanskrit where there do not appear to be *strict* rules about word order. One may construe this string as two sentences, viz., *girir vahnimān* (="the hill has fire") and *bhukto Devadattaḥ* (="Devadatta has eaten"). But as a single sentence it fails to generate any knowledge of its meaning.

It is evident from the brief exposition of these three notions, viz., semantical competency, expectancy and contiguity, that they are among the important properties of a grammatical and meaningful sentence. In other words, they turn an ungrammatical and nonsensical string into a grammatical sentence in such a way that we may know what it means. But, if sentence or *vākya* is taken in the general sense of any word-complex, as some Naiyāyikas obviously intended, these properties do not form part of the definition of the sentence. (For problems of such a definition, see § 2.8.)

A sentence is significant or meaningful if it can generate knowledge in a hearer who is a native language-user, whenever he listens to it. We can conceive of an 'ideal' hearer who knows the language and also knows 'how to do things with' language, and who reacts 'rationally' and 'mechanically' when he hears a grammatically correct and semantically coherent sentence. This 'rational' and 'mechanical' reaction, according to the Indian theorists, is produced by the utterance generating a particular direct cognition (*jñāna*) in the hearer, very much as blowing a

horn produces a particular vibration in the air. This theory also assumes that the hearer is reasonably attentive, i.e., not pre-occupied, and that no other negative (non-linguistic) condition is present so as to stop the required cognition from being generated. As said before, the Indian theorists called this cognition a *śābdabodha* of the sentence concerned. That a hearer knows what an utterance means signals that the utterance has generated such a *śābdabodha*. This cognition or knowledge (i.e., *śābdabodha*) is a result of the utterance, and hence, should not be confused with the speaker's cognition which is the speaker's private property and which might have prompted the utterance originally.

To describe the content of a *śābdabodha* may be said to be equivalent to describing the "meaning" of the utterance. A *śābdabodha*, i.e., knowledge of some sentence-meaning, belongs to the type which the Naiyāyikas call *savikalpa jñāna* or *qualificative* cognition[1]. A qualificative cognition is always expressible in language in some way or the other. Thus, the content of a *śābdabodha* can always be expressed in the language. We may call the expression of the content of a particular *śābdabodha* a 'paraphrase' of the utterance concerned. But note that a 'paraphrase', in the sense we are here concerned with, is not exactly equivalent to supplying synonyms for each constituent word and preserving the grammatical structure of the original as far as practicable. Roughly, we can characterize the original utterance as an utterance or sentence in the object-language, and its 'paraphrase', i.e., the expression of its *śābdabodha*, as the description of the same utterance in a suitably chosen, corresponding metalanguage. To provide a structural description of the sentences of the object-language, certain metalinguistic concepts were developed by the Indian theorists. A rough characterization of these concepts may be in order.

The content of the basic type of *qualificative* cognition (*savikalpa jñāna*) is analysed chiefly under two categories, the qualificand (*viśeṣya*) and the qualifier (*viśeṣaṇa* or *prakāra*). A cognition of this type can be roughly described as knowing

[1]The expression *savikalpa jñāna* has sometimes been translated as "determinate cognition" which I do not consider very illuminating. I have tried to explain the notion in some detail, translating it as "qualificative cognition." See my *The Navya-nyāya Doctrine of Negation*, Cambridge (Mass.), 1968, p. 15.

something (i.e., the qualificand) as something (i.e., the qualifier). Thus, in the cognition

(7) *raktaṃ puṣpam* "the red flower" or "the flower [is] red"

a flower is the qualificand and the colour red is its qualifier. Usually (as in the present case) the qualificand is a *thing* and the qualifier is one of its properties which the cognition happens to mention; but this is not always the case. For example, in the congnition

(8) *puṣpe raktaḥ* "red-colour (occurs) in the flower"

the colour red is the qualificand and a property which may be expressed as "occurrence-in-the-flower" (*puṣpa-vṛttitva*) is the qualifier. For, in an extended sense of 'property', to occur in a particular flower may be treated as a property of the red colour. Consider the following cognition:

(9) *rakta-puṣpavatī latā* "the creeper possesses (a) red flower"

Here, broadly, the qualificand is a particular creeper, and the qualifier is a particular red flower. But 'a red flower' also denotes a composite concept analysable into flower as the qualificand and red-colour as the qualifier. The Indian logicians went much further. They analysed the concept denoted by 'the flower' (or 'the creeper') into a flower-individual (or, a creeper-individual) as the qualificand, and the generic property flower-ness (or, creeper-ness), which is roughly equivalent to flower-universal (or, creeper-universal), as the qualifier. Using the expression "Q (xy)" for "x which is qualified by y"[1] the first variable x standing for the qualificand and the second, y, for the qualifier, the structural analysis of the meaning of the sentence (9) can be given as:

(10) Q (Q (ab) Q (Q (cd) Q(ef)))[2],

[1]Note that Q (xy) denotes a *complex of terms* and not a *proposition*. Alternatively, use might be made of *restricted-variables*, writing Q (xy) for the relation "x is qualified by y" and $_{\alpha}x$ Q(x, y) for "an x such that Q(xy)" (*cf.* J.F. Staal, 'Correlations Between Language and Logic in Indian Thought', *Bulletin of the School of Oriental and African Studies* 23 (1960) pp. 109-22.

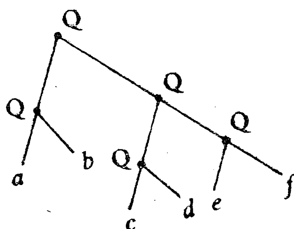
[2]I offer this symbolic translation instead of a necessarily ghastly English translation of the Sanskrit expression : *raktatva-viśiṣṭaḥ yo raktaḥ tad-*

where '*a*', '*b*,' '*c*', '*d*', '*e*', and '*f*' stand respectively for a creeper, creeperness, a flower, flower-ness, red-colour, and redness i.e., red-universal. By manipulating symbols and using the principle of substiution of elementary logic, (10) can be obtained from the initial formula:

(11) Q(*xy*)[1]

It is to be noted that, of the elements '*a*', '*b*', '*c*', '*d*', '*e*' and '*f*' some represent qualificands, some represent qualifier and some both, i.e., a qualificand in the immediate context and qualifier in the broader context and vice versa. But the creeper, represented by '*a*', holds a special position. It is simply a qualificand with respect to others and never a qualifier. Therefore, it is described as the *chief* qualificand (*mukhya-viśeṣya*) of cognition (9).

Equivalently, (10) can be represented by constructing the following diagram[2].



To increase the power of this symbolic language we may use the following two rules of combination:

(12) Q(*mn*) & Q(*no*)→Q(mQ(*no*)).

(13) Q(*mn*) & (*mo*)→Q((*mn*)*o*).

"Q(*m*Q(*no*))" can be read as "*m* which is qualified by *n* which is, in turn, qualified by *o*". Similarly, "O((*mn*)*o*)" can be read

viśiṣṭam yat puṣpatva-viśiṣṭapuṣpaṃ tat-prakārakaṃ latātva-vaśiṣta-latā-mukhya-viṣesyakaṃ jñānam; "it is a cognition, whose chief qualificand is a creeper qualified-by-creeperness, which creeper is qualified (also) by a flower-qualified-by-flowerness, which flower is (again) qualified by red-colour, which red-colour is qualified by red-universal."

[1]First obtain 'Q (Q (*cd*) Q (*ef*))' from 'Q(*xy*)', by substituting 'Q(*cd*)' for '*x*' and 'Q(*ef*)' for '*y*'. Then substitute 'Q(*ab*)' for '*u*' and 'Q (Q (*cd*) Q (*ef*))' for '*v*' in 'Q (*uv*)', and obtain (11)

[2]I owe this alternative suggestion to Professor J.F. Staal.

as "*m* which is qualified by both *n* and *o*". Further, since the connective '&' is symmetric, 'Q((*mn*)*o*)' is equivalent to 'Q((*mo*)*n*).'

Thus, if in a certain discourse it is not necessary to talk about redness, i.e., the universal *red*, cognition (7) can be represented as:

(14) Q(*cd*)*e*).

Similarly, cognition (9) can be represented, without any reference to entities like creeper-universal, flower-universal or the universal *red*, as follows:

(15) Q(*a*Q(*ce*)).

(15) can be read as "a creeper-individual which is qualified by a flower which is qualified by red-colour". Similarly, (14) can be read as "a flower-individual which is qualified by both flowerness and red colour". This, incidentally, shows that the qualificand-qualifier distinction does not always concide with the subject-predicate (*uddeśya-vidheya*) distinction of propositions, because in the corresponding proposition "the flower is red" we regard 'red colour' as the predicate (*vidheya*) and not 'flower-ness'.

We can now proceed to explain why the Indian theorists claimed that 'paraphrases' of all declarative sentences present a structural similarity, i.e., are analysable into the qualificand-qualifier model. The 'paraphrase' or the *śābdabodha* of a sentence should reveal that one element is the *chief* qualificand and that the rest play the part of either qualifier or qualificand or both. The Naiyāyikas accepted the convention that it is the nominative or agent (or, more precisely, the word with the first case-termination) which expresses the *chief* qualificand of the corresponding *paraphrase*, while the grammarians accepted the convention that it is the finite verb which expresses the *chief* qualificand.[1]

Thus, the sentence:

(16) *harir vihagaṃ paśyati* "Hari sees a bird"

will, according to Nyāya, generate as the paraphrase expressing its *śābdabodha*:

[1]This is, I think, a reasonable interpretation of the two rival theories about the analysis of the structure of a *śābdabodha*, *viz*., *prathamāntārtha-mukhya-viśeṣyaka śābdabodha* and *dhātvartha-mukhhya-viśeṣyaka śābdabodha*. To avoid complications I have not referred to the Mimāṃsā theory in this connection.

(17) *vihaga-karmaka-darśanānukūla-kṛti-mān hariḥ* "Hari is *qualified* by effort generating the activity of seeing which has a bird as object".

According to the grammarians, it will generate as the paraphrase expressing its *śābdabodha*:

(18) *vihaga-karmaka - darśanānukūla-vyāpāro hari-karttṛkaḥ* "the operation generating the activity of seeing which has a bird as object is qualified by Hari as its doer (i.e., is done by Hari)".

It should be noted that all the elements of the orginal sentence (16) can be correlated to one part or the other of each *paraphrase* given above. Each paraphrase also reveals the qualificand-qualifier structure of the original sentence. The philosophical bias of the Nyāya school prompted the Naiyāyikas to make the noun-substantive, Hari, the chief qualificand. The grammarians, on the other hand, wanted to emphasize the function of the finite verb, and hence, described its meaning as the chief qualificand.

Using our notation, (17) can be represented as

(19) Q(*h*Q(*k*Q (*sb*)))

where '*h*', '*k*,' '*s*' and '*b*' are abbreviations' for 'Hari', '*kṛti*' (= 'mental effort'), 'seeing' and 'bird' respectively. Note that '*h*' corresponds to the agent (nominative) of (16), '*k*' corresponds to the verbal suffix "*-ti*" (according to the Nyāya theory of language, which, however, differs from that of some grammarians) '*s*' corresponds to the root "*dṛś*" and '*b*' to the *karma* or accusative *vihagam*. Note also that seeing is said to be qualified by a bird through the accusative or patient (*karmatva*) relation (i.e., the relation of having it as its object), effort is said to be qualified by such seeing through the causal relation (*janakatā*, i.e., in respect of being its generator), and so on. Furthermore, one should note that the *karma* or accusative relation is expressed by the accusative ending used in the word-base *vihaga*- (= "bird"), but the generator (*janakatā*) relation is expressed by what is called *saṃsarga-maryādā*, i.e., it is obtained from syntactical properties of the sentence concerned. Similarly, the relation (viz. inherence) through which the chief qualificand, Hari, is said to be qualified by the property *kṛti* (= mental

effort) is also given by a syntactical connection (i.e., by *saṃsarga-maryādā*).[1]

Armed with the conceptual apparatus already described, the Naiyāyikas as well as the grammarians found it easy to define the scope of a *single* sentence, i.e., the notion of *sentence unity* (*eka-vākyatā*). If the *paraphrase* reveals only one *chief* qualificand, the corresponding utterance is a *single sentence* (although possibly a complex one). But if several (i.e., more than one) *chief* qualificands are revealed by the paraphrase, the corresponding sentence is a *multiple* one. Thus, examples like "Look a deer runs," etc., should not give the grammarians any trouble, for, in spite of there being apparently two finite verbs, there is only one 'chief' finite verb whose meaning constitutes the *chief* qualificand in the usual paraphrase or *śābdabodha*.

Some grammarians supported their theory that the meaning of the finite verb becomes the chief qualificand in the cognition that is generated as *śābdabodha* with the following examples:

(20) *caitreṇa supyate* "[It is] slept by Caitra" (Passive construction), i.e. "Caitra sleeps".

(21) *śṛṇu megho garjati* "listen, the cloud roars".

The *śābdabodha* derived from these two sentences is represented by the grammarians as follows:

(22) *caitra-karttṛkaḥ svāpaḥ* "sleeping is qualified by Caitra as its doer".

(23) *megha-karttṛka-garjanaṃ śṛṇu* "listen to the roaring which is qualified by the cloud as its doer". (To avoid unnecessary complications, I have given the *śābdabodha* i.e., paraphrase of the sub-sentence only.)

Note that in (22) sleeping (the meaning of the verbal root *sup*) is the chief qualificand, and in (23) roaring (the meaning of the root *garj*) is the qualificand which, in turn, may be related to the meaning of the principal verb "listen". Note also that (20) has no word with the first case-ending because it contains an *intransitive* finite verb in the passive; but it does have an *agent* (*kartṛ*), marked by the instrumental ending,

[1]This concept has been treated as identical with the *tātparya-śakti* in the Later Nyāya school. See also K. Kunjunni Raja, pp. 187, 209, 221.

because the sentence is in the Passive construction. In this case it will be difficult to maintain with the Naiyāyikas that the meaning of the word with the first case-ending (*prathamā*) should be construed as the chief qualificand of the resulting *śābdabodha*; for (20) has no word with the first case-ending. and (21) has *megho* (which is the word with first case-ending), whose meaning, i.e., the cloud, cannot be suitably construed as the object of listening.

The Naiyāyikas, however, in support of their theory, mentioned example (1) given above as well as examples, such as:

(24) *ghaṭo na bhavati paṭaḥ* "a pot is not a cloth".

(25) *aśvo gacchaty ānaya* "bring (back), the horse goes away"

These two will give the following 'paraphrases'.

(26) *paṭa-bhedavān ghaṭaḥ* "a pot is qualified by the mutual absence of cloth".

(27) *gamana kartāram aśvam ānaya* "bring (back) the horse which is qualified by the activity of going". (Here, as in (23), only the paraphrase of the sub-sentence has been given.)

Note that (25) counterbalances the force of the argument put forward with reference to example (21). With regard to (20), the Naiyāyikas say that since there is no word with the first case-ending, the meaning of the verbal root takes its place. (21), on the other hand, will be interpreted as

(28) *garjana-kartāram megham śṛṇu* "listen to the cloud which is qualified by roaring".

Although it is true that we do not hear the cloud but its roaring, yet it is not unnatural to say that we hear the roaring cloud. In such cases, the Naiyāyikas appealed to the following principle.[1]

> If something is predicated of a *qualified entity* (*sa-viśeṣaṇa*) and if the predicate is not applicable to the qualificand as such, then the predicate is supposed to be applicable to the qualifier only.

The dispute between the grammarians and the Naiyāyikas may

[1]*cf. sa-viśeṣaṇe hi vidhi-niṣedhau viśeṣaṇam anubhavataḥ sati viśeṣye bādhe* : *Nyāyakośa*, p. 877.

be accounted for by reminding ourselves of the first grand division of word-constituents of sentences, which is twofold : into verbal words and nominal words. Thus, initially, the choice lies between these two. A verb phrase usually refers to some action or state, and a nominal phrase often refers to some object or substance which is in that state or performs (undergoes) that action. The grammarians were more interested in forming rules about phonemes and morphemes and about the inflectional modifications of different words. They may have been struck by the fact that it is in relation to the meaning of the verb that the nominal stems take different endings. The same nominal word "Hari", for instance, takes different case-endings as its relation to the verb *jñā* ("to know") changes, thereby yielding different sentences, e.g.:

harir jānāti "Hari knows"—nominative relation,
harim jānāti "(One) knows Hari"—accusative relation,
hariṇā jānāti "(One) knows by Hari"—instrumental relation,
harer jānāti "(One) knows from Hari"—ablative relation, and so on.

This may have led some grammarians to think that the verb is 'all-powerful' in a sentence and holds all other elements together as its attributes or qualifiers.[1]

The Naiyāyikas, on the other hand, were more interested in ontological categories, In their ontological scheme, the idea of substance (*dravya*), the obvious reference of most nominal words, is predominant. Substance is regarded as the substratum in which different properties, viz., qualities, actions, etc., reside. According to them, the nominative (or the word with the first case-ending) usually designates the substratum or the *chief* qualificand, to which other objects are related as properties or qualifiers, designated by other elements of the sentence.

[1]One might argue that the same root *jñā* (="to know") can also take different conjugational endings with the same noun-subject to indicate different tenses, moods, etc. But such variation in conjugational suffixes does not depend upon, and hence, is not determined by, the variation of the verb's relation with the noun-subject. The point here is this : in determining case relations the verb can be said to be an important factor in some sense, but in determining tenses and moods the noun-subject is not an important factor in the same sense.

In view of the above, we can make the following observations : (i) Sentence or *vākya* may be initially defined as any word-complex. In order to account for only those sentences which are accepted intuitively as both grammatical and meaningful, the definition has to be qualified by introducing such notions as competency (*yogyatā*), expectancy (*ākāṅkṣā*) and contiguity (*āsatti*). (ii) For a sentence to be meaningful, it is necessary that it can be understood by the hearer, which in turn means, according to the Indian theorists, that it can generate a corresponding cognition in the hearer. Such a cognition, called *śābdabodha*, can be represented by a *paraphrase*. (iii) This cognition can only arise from a sentence which is syntactically well-formed (as already suggested by the notion of *ākāṇkṣā*), i.e., in which the elements are interrelated in accordance with the syntactic and inflexional rules. (iv) The paraphrase which represents the *śābdabodha* can be analysed in terms of the qualificand-qualifier structure. (v) The notion of *śābdabodha*, thus explicated, may be taken to correspond to the notion of knowing the meaning of a sentence.

§ 5.5 : Grammaticality and Meaningfulness

In the previous section, I have suggested that the notion knowing of *śābdabodha* in the Indian context may be taken to correspond to the notion of the meaning of a sentence. In this concluding section, I shall further elaborate certain issues connected with this point. *śābdabodha* is a piece of knowledge that arises in the hearer from the utterance of a sentence. Sometimes it is translated as 'verbal testimony' or rather 'knowledge derived from verbal testimony' (in traditional terminology) as opposed to knowledge based upon perception and inference. For, short 'śābdabodha' may be translated as' verbal knowledge', provided we are careful so as not to contrast the word 'verbal' with 'real'. For, sometimes it may be claimed that somebody has only "verbal" knowledge but no "real" knowledge. Verbal knowledge is indirect knowledge as much as inferential knowledge is, but this cannot weaken its claim to knowledge-hood.

Common sense takes verbal knowledge to be less reliable than perception and inference. For, in acquiring verbal knowledge we have to depend essentially upon the reliability of the speaker,

upon his honesty, competence and authority, and these criteria are proverbially uncertian. Traditionally, a reliable or trustworthy speaker should have the following virtues: freedom from error or illusion, lack of the intent to deceive, and lack of any defect in his sense-faculties (cf., *bhrama-vipralipsā-karaṇāpāṭava*). Such a person is called *āpta*. Vātsyāyana has said under *Nyāya-sūtra* 1.1.7 that any person can be an *āpta*, irrespective of his caste, creed or religion. Contrary to our common belief, one should note that neither perception nor inference should be in any way better than verbal knowledge as far as reliability or certainty is concerned. For reliability of the sense-organs, adequacy of the evidence or reason (for inference) and trustworthiness of the speaker—all sail by the same boat. As far as Nyāya is concerned, none of them would be infallible. Each of them can, on occasion, mislead and generate error. But, nevertheless, knowledge is generated from all these sources.

The hearer's knowledge or the cognitive episode arising in the hearer from the utterance of a sentence is said to grasp the 'meaning' (*artha*) of the sentence uttered. Most Indian philosophers of language agree on this point, viz., on such an interpretation of the term *artha* (meaning) in the context of a sentence. What this episode *grasps* has a 'structured content' (cf., *viṣayatā*) which we can make more intelligible by calling it the structure of a thought. When we say that a particular hearer *a* understands the meaning, we mean thereby that *a* has a particular 'structured' thought. It may be said, therefore, that the Indian philosophers were concerned with the 'hearer's meaning' rather than the 'speaker's meaning'. Meaning is not what is (or happens) in 'the head of' the speaker, and arguably, it is also not what happens 'in the head of' the hearer. For, the hearer may hear and not understand the meaning at all or misunderstand it. Sometimes one may say, "I have heard what you said, but I have not comprehended (or *fully* comprehended) the meaning." Presumably, we have access to the 'inner world' or the mind of neither the speaker nor the hearer. But the hearer is conceived here to be an 'ideal hearer', who is any competent language-user. The structured thought that is supposed to arise in such an ideal hearer is something that is intersubjectively available: it is presumably shared by any competent language-user who hears the sentence uttered.

In this way, it is claimed that an attempted account or analysis of the knowledge of such an ideal hearer would be an account of the *meaning* of the sentence. To be sure, the knowledge-episodes of all the individual hearers may be distinct and different as episodes, but they all share the same structured content. Obviously, we have to exclude a lot of other variables from this concept of the knowledge-episode of the ideal hearer. Various implications and presuppositions of the statement made may be understood by the hearers, and they may be understood differently at the same time. But these would not be our concern here. The ideal hearer is like a computing machine, where the input would be the utterance and the output would be a corresponding uniquely structured thought or knowing episode.

In this style of philosophizing, or in this way of doing philosophy of language, the structured content of the ideal hearer's knowledge is regarded as giving the so-called semantic interpretation of the sentence heard. It is maintained that each grammatico-syntactic element along with the lexical items contributes in some way or other to such a semantic interpretation captured in the knowledge-episode of the hearer. Such a knowledge-episode arises in the ideal hearer as soon as he understands what is said although there are no observable behavioral criteria, unless and until the hearer acts accordingly or does something in reply. We assume that the hearer possesses the knowledge-episode, provided he has been an attentive hearer and a competent language-user.

The grammatico-syntactic elements of the uttered sentence can be conveniently mapped into the analysis of the structured content of the said knowledge-episode of the hearer. The term *śābdabodha* or *anvayabodha* is sometimes used to mean simply the description of this mapping. This knowledge of the hearer is also propositional or qualificative in the sense that its structured content admits of a qualificand-qualifier analysis. Besides the qualifier and the qualificand, the simplest structure contains a third element, which we may call the 'connector' or 'mixer'. There are generally two types of connector: identity and non-identity. Non-identity has various sub-categories: owner-owned, locus-locatable, content-ness, etc. These connectors are, in fact, only semantic mirror-images of various syntactic and grammatical elements represented at the surface structure of the language by

various inflections, etc. The usual rule of thumb is that if the two expressions have appositional suffix or syntactic parallelism, then the corresponding connector would be an identity (*abheda*) between the 'meanings' or the objects they refer to. Otherwise, the connector would belong to the sub-category of 'non-identity' (*bheda*) connectors. At times, we can perceptually anticipate a connection between two items; for example, we see that a cat is on the floor. The object-complex, the reality which gives rise to the perception, has no doubt a structure, but it has a 'neutral' structure. It is neutral in the sense that it may give rise to different perceptions with different sorts of structure. We may, for example, see either that the cat is ON the floor or that the floor is UNDER the cat. However, the utterance of the sentence "The cat is ON the floor" would generate a piece of knowledge in the hearer with a determinate structure. This is one of the distinctions that Navya-nyāya emphasizes as existing between a perceptual knowledge and verbal knowledge. In other words, verbal knowledge cannot be subsumed under what is called a *mental* perception generated by the remembering of the meanings of words, etc. (See also § 5.3 for similar distinction between verbal knowledge and inference.)

Let us note that although the English translation, "the cat is white," of a corresponding Sanskrit expression "śveto mārjāraḥ" is generally acceptable, a more correct translation, according to Nyāya, would be "The cat (is) something white or a white thing." Since the two expressions have the same nominative inflection, and hence the required syntactic parallelism, the knowledge of the hearer generated by this utterance would have a structured content: The cat is identical with a white thing. The non-verbal (perceptual) knowledge-episode may, however, have alternative structured contents as expressed by such sentence-constructions: "There is white colour in the cat" and "The cat has white colour." This is how one can explain the dictum in Sanskrit: *śabdabodhe nāmārthayor abhedānvayaḥ*. Notice that that the last two sentences are only verbal expressions of two different perceptual episodes. The ideal hearer's knowledge derived from such utterances would again be different.

Navya-nyāya authors suggest that the mappings of the hearer's knowledge can be done as follows:

"The cat is on the floor (*bhūtale mārjāraḥ*)".—UTTERANCE
The hearer's knowledge: The cat is qualified by occurrence on the floor, i.e., by the floor through the connector of locatability (*ādheyatā*).
The syntactico-grammatical analysis of the sentence: *bhūtala* (floor) locative *i mārjāra* (cat) nominative *s*.

It is said that the nominative *s* indicates the chief qualificand (*mukhya viśeṣya*) for the hearer. Therefore, the cat, i.e., the 'meaning' of the object referred to by the associated word is the chief qualificand. The locative *i* signifies the connector of locatability (*ādheyatā*), and this links the associated word with the other word in such a way that the object referred to by the associated word ("floor") becomes the locus of the cat. In this way, the ideal hearer's knowledge is described by Nyāya as one whose qualificand is the cat corresponding to the expression "the cat", the qualifier is the floor (corresponding to "the floor"), and the connector which makes such qualification possible is locatability signified by the suffix "*i*" (or "on"). Since this piece of knowledge is generated by the utterance of the said sentence, we may say that a semantic description of the uttered sentence has been given in this way from the hearer's point of view.

One may now ask: Since the above three elements (to be found in an atomic sentence) are distinct, what is it that combines them into one unity? The Nyāya answer is: *ākāṅkṣā* 'syntactic and inflectional expectancy'. Let us come back to the discussion of this very important concept. The term certainly has some psychological connotation, but in Navya-nyāya it does not stand for any psychological state of either the speaker or the hearer. It stands for a property of the elements of a sentence of a language. It is the sequential relation (cf., *ānupūrvī*) between words and their suffixes as well as between the words. To be precise, it refers to the interdependence of the lexical items (nominal and verbal stems) and the grammatical elements (nominal and verbal suffixes) as well as the interdependence of certain grammatical categories (verbs, agents, objects, instruments, etc.) among themselves. It is believed that all these items or units are by themselves 'incomplete' or 'unsaturated; and hence, require or 'expect' others to complete the sentence. The

sentence is thereby rendered grammatically acceptable and it acquires the *minimal* meaningfulness. Identification of these units or elements of the sentence is what gives its grammatico-syntactic Ākāṅkṣā. It is thus a property of the linguistic elements, and is regarded by Nyāya as a pre-condition for the arising of the 'ideal' hearer's knowledge. This is not at all surprising, for the hearer cannot obviously interpret the sentence semantically (or understand its meaning) unless he has some notion of its grammatico-syntactic structure.

A sentence, as we have seen, is not simply a cluster of words, but a cluster of words with a syntax which presumably expresses a complete thought. Nyāya takes an atomistic view of language, and hence, believes that the meanings of words (stems and suffixes) come together to constitute the complete sentence-meaning or the structured content of the ideal hearer's knowledge. In this view, therefore, there arises a problem. Suppose, the atomic elements are given or presented in a manner which will not obey any syntactic or grammatical rules of the language, although they are being presented in that language. It would be an almost impossible feat to give an illustration. But let us try. A sequence of words will be given, but it will not reveal any syntax or observe any grammatical rules. Nyāya argues that the hearer's knowledge in that case would not arise, for the pre-condition, *ākāṅkṣā*, is lacking. Udayana believes that the hearer does not have to have a direct knowledge of *ākāṅkṣā*, but simply the presence of this property in the uttered sentence would be enough to pave the way for the arising of the hearer's knowledge (provided other conditions are also fulfilled).[1] One may interpret this as saying that a sentence must observe the syntactico-grammatical rules, i.e., must be grammatically acceptable, and this property of grammatical-ness by its mere presence would be one of the required conditions for generating the ideal hearer's knowledge.

Consider the sentence :

Rāmo ghaṭam ānayati ("Rama brings a pot").

It generates, according to Nyāya, a knowledge of the form :

(The qualificand) Rama is qualified by the action which is conducive to the fact of bringing whose object is a pot.

[1] *Nyāyakusumāñjali*. (Udayana), Ch. 3. verse 13.

The following table shows the mapping of the linguistic elements into the constituents of the hearer's knowledge :

Linguistic elements	*Components of the knowledge*
The word "Rāma"	Rama
The verbal suffix *ti*	The action
The verbal stem "bring" (*ā-nī*)	The fact of bringing
The word "ghaṭa"	A pot
The nominal accusative suffix "*am*"	The object of

Now, if all the constituents of knowledge are presented without a syntactically and grammatically well-formed sentence, it would not generate the required knowledge in the ideal hearer. One may utter

("Rāmo ghataḥ karmatvam ānayanam kṛtiḥ" =)

"Rama the action the fact of bringing a pot the object of". Here the hearer cannot *legitimately* understand the required meaning, and hence, he would not have the required knowledge, although all the components are given. We say "legitimately", because he may on occasion make an intelligent guess, but obviously that is not our concern here. We do make intelligent (and sometimes not so intelligent) guesses when we hear the so-called ungrammatical sentences. But this will not fall into the category of *śābdabodha*. Although the example is a little bizzare, the point of the argument is, I think, clear. If a sentence does not observe certain basic syntactico-grammatical rules of the language concerned, it also lacks *ākāṅkṣā*. I shall presently address myself to the question whether ākāṅkṣā ensures grammaticality of a language-sentence.

We have seen in section 5. 4 that there are two other pre-conditions that are mentioned in this connection. One is *āsatti*, which is a 'physical' property. It is contiguity or proximity of the linguistic elements in time and space. It pertains to the physical aspects of the linguistic elements, while the other *yogyotā* (compatibility or competency) pertains to the semantical aspects (meaning-aspects) of such elements. It is obvious that the relevant linguistic elements must be presented (uttered) without long and unnecessary gaps or interventions. Such gaps would destroy the sentence-hood of a complex of elements.

Let us take a close look at the notion of *yogyatā* again. This is sometimes defined as the lack of any disconnection or impos-

sibility of connection among the atomic meaning-elements delivered by the atomic linguistic elements. It ensures the (conceptual) possibility of one item being connected with another, so that both can figure in the structured content of the hearer's knowledge. The concept of possibility is a modal concept, and hence, there may be a problem of modality implicit in the concept of *yogyatā*. The other problem that is involved here is that of determination of the borderline between grammaticality and semantic acceptability of a combination of linguistic elements.

According to some, the possible states of affairs include the actual (modern modal logicians say that the actual world is a member of the set of possible worlds). But possibility may also be understood in the sense of unactualized possibilities (cf., Quine's fictitious philosopher, Wyman, in his "On what There Is ?").[1] A still narrower concept would be to limit ourselves to future possibilities only. The Nyāya concept of *yogyatā* seems to be broad enough to coincide with the first kind of possibility. But this would raise a lot of problems. The typical examples which are said to be impossible (i.e., incompatible 'a-yogya') combinations are as follows :

1. (He) wets with fire.
2. The horn of a rabbit.
3. The (water—) lake has fire.

To facilitate our discussion, I shall add several other examples, which Udayana listed in his *Ātmatattvaviveka*.[2] According to Udayana's commentators, Bhagīratha and Raghunātha, all these illustrate different types of impossibility :

4. This mother is a barren woman.
5. I am mute (speechless).
6. I do not know this.
7. There is an elephant in my ear, and it is roaring, hence, speak about the medicine.

The first two seem to illustrate some sort of metaphyiscal or ontological impossibility. They are not only non-actual, but also impossible in the sense that the first item (fire or rabbit) cannot be related to the second item (wetting or horns) in the way indi-

[1]Quine, W. V., *From a Logical Point of view*, pp. 1-19.
[2]*Ātmatattvaviveka*, (Udayana), ch. 2, p. 533 (Bib. Indica edition).

cated. The rabbits do not have horns, and fire is not used to wet but to dry. Could we argue here, just as it has been argued by some in another connection, that creatures like unicorns are *possible* objects, although they are not actual, that it is possible for rabbits to grow horns, for that would not take the rabbit-hood out of a rabbit? In other words, it does not follow from the definition (or the essence) of a rabbit that it cannot have horns. Similarly, one may even say that there may be *liquid* fire in some possible world where we can wet or sprinkle the ground with it. But this line of argument would be deplored by Nyāya, for the two combinations then would not illustrate incompatibility. And if they are not incompatible, the ideal hearer would have a knowledge of their 'meanings', for he would be aided by, among other things, an awareness of their possibility. The general Nyāya position is, however, that these combinations do not generate the required knowledge in the ideal hearer, for they lack *yogyatā*. Other examples are clearly intended to show patent (or logical ?) impossibility. Water-fire may still be in the borderline, but others can be said to be logically impossible without further ado : motherhood and barrenness, speech and speechlessness, knowing and not knowing and listening where listening is impossible. (The last example was a bit enigmatic, and different interpretations were given by different commentators. But I forbear to enter into them here.)

It may be surmised from such discussion that for Nyāya there is no strict distinction between logical impossibility and factual impossibility. Incoherent and incompatible conbinations are in the domain of the impossibles.

The Nyāya theory of *Śabdabodha* obviously allows that the domain of 'possible' combinations excludes the above-mentioned impossible combinations, but it would include, besides the actual or 'true' combinations, a large number of combinations or word-clusters that would pass the test of physical proximity (*āsatti*), that of the said syntactico-grammaticality (on our interpretation of *ākāṅkṣā*), and also that of possibility or compatibility (*yogyatā*), but would still fail to generate a true cognition or knowledge in the ideal hearer. Why ? Predominance of false sentences uttered by deceitful or ignorant or incompetent persons is a matter of common experience. Hence, the hearer, no matter whether or not he is aware of the speaker's intention or his

qualifications, would have a false awareness (a false belief) with a structured content similar to that of a piece of knowledge. In such cases, we usually say that the uttered sentence is meaningful but false. In view of this problem, further conditions were imposed upon the situation giving rise to an episode of verbal knowledge, viz., the speaker must be an *āpta*, a reliable person (see before).

What then are these 'possible' falsities ? How do they differ from the impossible ones ? For, to be sure, the tendency in Nyāya has been to push most of the so-called unactualized possibles, the flying horse or the rabbity horn, into the domain of the 'impossibles' (i.e., the incompatibles, *ayogya*). This leads to the discussion of the intricate problems of modal notions, which I wish to skip in this connection. There is, however, one easy way to distinguish the 'possibles' from the 'impossibles' in the Nyāya theory. If our ideal hearer would have an awareness, true or false, from the utterance concerned, then the combination (uttered) would be pushed into the domain of possibility. Truth or falsity would be determined in this theory by the speaker's qualifications, etc. Our ideal hearer may be ignorant whether the awareness that he has is a true one or a false one, unless and until he makes further investigations : he may check the speaker's qualifications, or the situation in which the supposed combination has been stated to be actual, or use some other means. So long as the awareness arises in him in the required fashion without any further investigation, we have to accept the said combination as belonging to the domain of the possibles. If, inspite of the utterance passing the test of proximity and syntactico-grammaticality, the required awareness does not arise in the way it has been described, then the combination would belong to the domain of the impossibles.

Some modern philosophers (e.g., W.V. Quine) have raised doubts about the intelligibility of the analytic-synthetic distinction. It has been argued that the criterion for a clearcut distinction cannot be formulated without involving one in circularity, and hence, it is a dogma of empiricism to maintain that the distinction is intelligible. If this is true, then, a consequence of it seems to be that a clearcut line of demarcation between the unactualized possibles and the impossibles would vanish, or would be ever-elusive. For, to be sure, what would be an

'impossible' combination in the Nyāya theory is a mirror-image of what would be, roughly, *analytically* false : "Bachelors are married." Arguments in the fashion of Quine can be given to show that the combinations, such as, the rabbity horn, sprinking with fire, the barren woman's son and the water-lake having fire, are all, strictly speaking, impossible, for, no satisfactory criterion can be formulated to show that some of them are 'possible,' while the others are not. The idea behind this is sometimes expressed by the claim of some modern Naiyāyikas that if horns started growing on rabbits, the new creatures would not be rabbits any more ! In fact, it has been reported that some rabbit-like creatures have been found with horns on them. Probably Nyāya would say that these are not rabbits but belong to a (slightly) different species.

In fact, Nyāya would contend that the domain of the unactualized possibles (presumably referred to by such 'possible' but unactual combinations of words) should be restricted to the domain of false possibilities. Being guided by various considerations, we do assume a lot of things and facts to be actual. Most of them, however, after further investigation and further consideration, turn out to be unactual, false. When even such initial assumption is not made by us even though we are confronted with some presumably grammatically combinable word-cluster, we have passed beyond the domain of the 'possibles' and hover now over the domain of the impossibles. 'A rabbity horn' would be an item of this kind. For, had we not been informed about rabbits in the way we are actually informed, or had we even been differently informed, we would have assumed the said combination to be a 'possible' one. And in that case, Nyāya would concede that an awareness would have arisen in us from the relevant utterance : the rabbit's horn.

I shall conclude with a few comments on the second problem : that of determining a fixed borderline between syntactic and grammatical acceptability and what may be called semantic acceptability. The issue is connected with the problem of defining grammaticality. The task of defining grammaticality is viewed by moderners as involving some intricate problems.[1] Indian philosophers sometimes discussed the issue about where the

[1] Lyons, J., *Introduction to Theoretical Linguistics*, Cambridge, 1968 p. 152.

domain of *ākāṅkṣā* ends and the notion of *yogyatā* takes over. For example, why, it may be asked, cannot the requirement of a liquid or water as an instrument for sprinkling or wetting the ground be a matter of *ākāṅkṣā*, instead of *yogyatā*? Some Navya-nyâya writers resolved the issue by saying that the concept of *yogyatā* 'possibility' should be restricted to the lack of such verbal contradiction or patent (analytical?) impossibility as is expressed in "What is without fire has fire" (cf., *nirvahnir vahnimān*). Water as an instrument of sprinkling would be included in this view in the domain of *ākānkṣā*. If this is a step towards the right direction, it would support my attempt to connect *ākāṅkṣā* with syntax and grammaticality, and *yogyatā* with semantics.

We can reformulate the previous question and ask : where lies the line where syntax-and-grammar ends, and semantics takes over? In other words, why 'a noun must take a verb' or 'a transitive or object-taking (cf., *sa-karmaka*) verb must take an object-noun,' would be considered only syntactic requirements, while 'the verb *sprinkling* needs a liquid or watery substance as its instrument' and 'the verb *eating* needs somewhat solid food as its object' would be considered semantic requirements? Somewhat in the manner of N. Chomsky (in *Aspects of the Theory of Syntax*), one can introduce sub-categorization of nouns and selection rules of verbs in the syntactic theory, and thereby the domain of syntax and grammar may be extended to include a lot of consideration which we ordinarily take to be semantic consideration. It may be noted that the Chomskian view (in *Aspects*) was that while syntax can take care of numerous problems which have been traditionally regarded as semantical, the notion of analyticity and contradictions are to be regarded as matters of semantics.[1]

The classification of grammatical elements and lexical items and the system of rules dealing with them can be made progressively more detailed and thereby the notion of grammaticality can be redefined. The general idea here is probably this : grammaticality is, in the last analysis, to be defined by reference to a

[1]Chomsky, N. specially pp. 148-63. Chomsky concludes : "...the syntactic and semantic structure of natural languages evidently offers many mysteries, both of fact and of principle, and that any attempt to delimit the boundaries of these domains must be quite tentative." (p. 163).

particular system of rules, although it might not always be possible to formulate these rules explicitly and exhaustively. A string of words is grammatical (and *sākāṅkṣa*) if it is generated by such rules. But this idea may go against Chomsky, who would maintain that the notion of grammaticality is intuitively determined by the native speaker.

The Nyāya theory, according to the interpretation that has been suggested here, can be presented in the form of the following (inverted) tree-diagram :

S_1 = the set of word-clusters that generate the verbal knowledge passing all the four tests.

S_0 = the set of combinations that generate false awareness (the speaker is not *āpta*).

S_2 = the set of the possibles, acceptable grammatically and syntactically.

S_3 = the set of the impossibles, acceptable grammatically and syntactically.

S_4 = the set of those acceptable grammatically and syntactically

S_5 = the set of those unacceptable grammatically and syntactically.

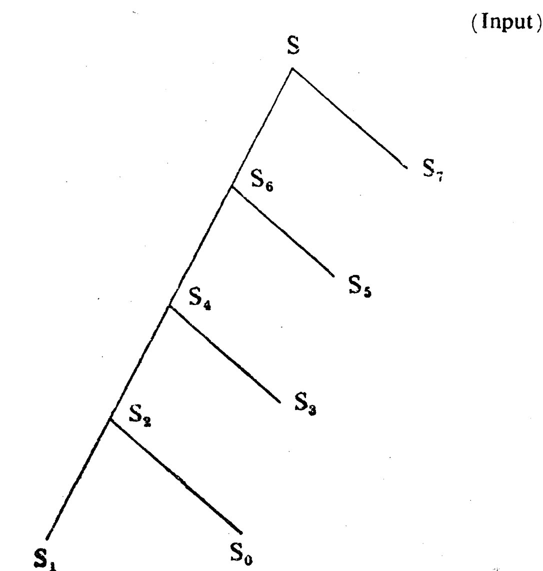


Diagram I

S_6 = the set of those that pass only the 'physical proximity' test.

S_7 = the set of those which fail even the "proximity' text.

S = the set of word-combinations of all forms.

The usual Nyāya discussion, however, does not envision such a rigid system or model. The traditionally understood model is more like something given below :

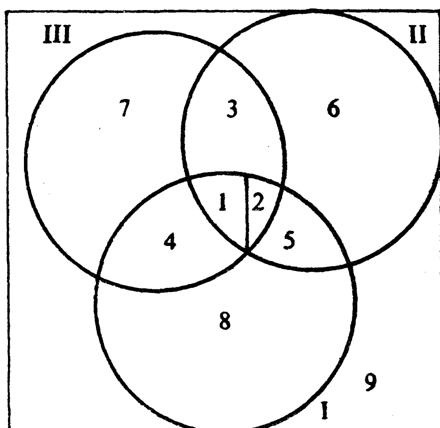


Diagram II

Here the nine regions should be interpreted as follows :

1 TRUE i.e., the set of those that generate knowledge in the ideal hearer. The speaker is *āpta*.

2 FALSE i.e., those that generate a (false) awareness. The speaker is not *āpta*.

3 Grammatical (syntactically acceptable) and Possible.

4 Possible and (physically) Proximate.

5 Grammatical (syntactically acceptable) and (physically) Proximate.

6 Grammatically (syntactically) acceptable.

7 Possible

8 Proximate (physically).

9 Non-proximate combinations, if any.

Circle I is for Proximity, Circle II for Grammaticality, and Circle III for Possibility.

The above way of conceiving grammaticality and meaningfulness may face two very common objections. First, we do meet a lot of grammatically incorrect expressions (e.g., a language-learner's first exercise in composition), of which we seem to understand the 'meaning'. These expressions will fail the test of *ākāṅkṣā*, according to our above model. Do we have a *śābda-bodha* in such cases ? Our answer would be that we do not have a verbal knowledge *directly* from the utterance in such cases. The incorrect expression reminds us (due to similarity, etc.) of the correct one, which then generates the required verbal knowledge.

Second, there are indeed numerous expressions in our language forming part of poetry, riddle, fiction and fantasy, where the so-called incompatible or impossible combinations do frequently occur. And we do seem to understand their meaning or significance. They do not pass the test of *yogyatā*, according to our above model. Do they generate *śābdabodha*? For, it cannot be denied that "sprinkling with fire" could be part of a metaphor or a poetic expression, and even "green ideas sleep furiously" may be a line of a so-called nonsense poem, or a riddle. In reply we must say that the notion of compatibility or possibility here is relative to the actual world we live in and the non-poetic everyday language. When we enter into the realm of fiction or the fantasy-world, such 'possibility' test will not be needed. For, the unactuals and the impossibles, the improbables, except, perhaps, the *properly* impossible one (such as, the same part of a wall being red and blue all over at the same momemt for the same observer in the same sense), can form part of the furniture of our fantasy-world, or some suitably chosen 'possible' world. We can even perceive them in dreams, and communicate them in language or through some other media, paintings (illustrations of "puzzle" paintings are nuemrous). However, the fantasy-world is founded necessarily upon the actual world, and the non-actuals can shade off gradually from the possibles to the impossibles; we can understand such expressions only when we cast sidelong glances towards the actual world. We understand something to be impossible, because we understand what could have been or is possible; and we understand the possibles, because we understand the actual. It cannot be the other way round.

SELECT BIBLIOGRAPHY

Only those books are listed as are alluded to in the footnotes.

Abhidharmadīpa, with *Vibhāṣā-prabhā-vṛtti*. (ed. P.S. Jaini), Patna, 1959.

Akalaṅka. *Akalaṅka-grantha-traya*, ed. M.K. Sastri, Singhi Jain Ser. 12. Calcutta, 1939.

Annaṃbhaṭṭa. *Tarkasaṃgraha*. (ed. S. Vangiya), Varanasi, 1969. (Also edited and trans. by A. Foucher, Paris, 1949).

Anuruddha. *Abhidhammatthasaṅgaho* (ed. Revatadharma Sastri), Varanasi, 1965.

Aristotle. *The Basic Works of Aristotle* (ed. R. McKeon), New York, 1941.

Asaṅga. *Abhidharmasamuccaya* (ed. P. Pradhan), Santiniketan, 1950.

Aung, S.Z. *Compendium of Philosophy*, London, 1965.

Austin, J.L. *How to do Things with Words*, Oxford, 1962.

——— *Sense and Sensibilia*, Oxford, 1962.

Ayer, A.J. *Foundations of Empirical Knowledge*, London, 1951.

Bambrough, J.B. *New Essays on Plato and Aristotle*, London, 1965.

Basham, A.L. *History and Doctrines of the Ājīvikas*, London, 1951.

Berkeley, G. *Works* (ed. T. Jessop and A. Luce), London, 1948.

Bhāsarvajña. *Nyāyasāra* (ed. S.S. Sastri and V.S. Sastri), Madras, 1961.

———. *Nyāyabhūṣaṇa* (ed. Swami Yogindrananda), Varanasi, 1968.

Bhartṛhari. *Vākyapadīya* (ed. K.V. Abhyankar and V.P. Limaye), Poona, 1965.

———. *Vākyapadīya*, kāṇḍa III, with Helārāja's comm. (ed. K.S. Iyer), Poona, 1963.

Bhattacharya, D.C. *Baṅge Navya-nyāya Carcā*, Calcutta, 1953.

Bhattacharya, V. *The Āgamaśāstra of Gauḍapāda*. Calcutta, 1943.

Bhavānanda. *Kārakacakra* (ed. B.S. Sastri), Varanasi, 1942.

Bochenski, J.M. *History of Formal Logic* (trans. I. Thomas), Freiburg, 1956. Notre Dame, 1961.

Böhtlingk, O. *Pāṅinis Grammatik*, Leipzig, 1887.

Broad, C.D. *Scientific Thought*, London, 1923.

Bṛhadāraṇyaka Upaniṣad. Anandasrama edition, Poona, 1953.

Candrakīrti. *Prasannapadā.* See *Mādhyamika-kārikā* of Nāgārjuna.

Caraka. *Caraka-saṃhitā* (ed. Y. Sharma), Bombay, 1933.

Cardona, G. *Pāṇini: A Survey of Research*, The Hague, 1976.

Carnap, R. *The Logical Syntax of Language*, Patterson, N. J. 1959.

———. *Meaning and Necessity*, Chicago, 1947.

Chi, R.Y.S. *Buddhist Formal Logic*, London, 1969.

Chisholm, R. (ed.). *Realism and the Background of Phenomenology*, Glencoe, Illinois, 1961.

Chomsky, N. *Aspects of the Theory of Syntax*, Cambridge, Mass., 1975.

Collingwood, R.G. *An Essay on Metaphysics*, Oxford, 1940.

Danto, A.C. *Mysticism and Morality*, New York, 1972.

Dasgupta, S. *A History of Indian Philosophy*, 5 vols., Cambridge, 1963.

Descartes, R. *Philosophical Works* (Tr. and ed. by E.S. Haldane and G.R.T. Ross), Cambridge, 1931.

Dīghanikāya. (ed. T. Rhys Davids and E.J. Carpenter), 3 vols., London, 1890-1911.

Dhammasaṅgani (ed. P.V. Bapat and R.D. Vadekar), Poona, 1942.

Dharmakīrti. *Pramāṇavārttika* (ed. Swami Dwarikadas Sastri), Varanasi, 1968.

———. *Santānāntarasiddhi* (trans. with notes H. Kitagawa), Kyoto, 1968.

———. *Vādanyāya* (ed. Swami Dwarikadas Sastri), Varanasi, 1972.

Diṅnāga. *Ālambanaparīkṣā* (ed. with Sanskrit re-trans. A. Sastri), Madras, 1942.

———. *Pramāṇasamuccaya.* See *Dignāga, on Perception* by M. Hattori.

Ducasse, C.J. *Nature, Mind and Death*, La Salle, 1951.

Evans, J.D.G. *Aristotle's Concept of Dialectic*, Cambridge, 1977.

Frauwallner, E. *History of Indian Philosophy*, 2 vols. (tr. V.M. Bedekar), Delhi, 1773.

Gaṅgeśa. *Tattvacintāmaṇi*. 1. with *Rahasya* of Mathurānātha, *Āloka* of Jayadeva, and *Prakāśa* of Rucidatta, ed. K. Tarkavagisa, 4 vols. Calcutta, 1884-1891.

2. with *Dīdhiti* of Raghunātha Śiromaṇi and *Jāgadīśī* of Jagadīśa, ed. S. Nyayopadhyaya, Varanasi, 1906-1908.

3. with *Dīdhiti* and *Gādādharī* of Gadādhara, ed. B. Bhattacharya, Varanasi, 1913-1927.

Geach, P.T. *Reference and Generality*, Ithaca, 1962.

Ghoṣaka. *Abhidharmāmṛta*, Sanskrit re-trans. S. Sastri, Visvabharati Annals, vol. 5, Santiniketan, 1953.

Geokoop. C. *The Logic of Invariable Concomitance in the Tattvacintāmaṇi*, Dordrecht, 1967.

Granoff, P. *Philosophy and Argument in Late Vedānta*, Dordrecht, 1978.

Guha, D.C. *Navya Nyāya System of Logic*, Varanasi, 1968.

Hattori, M. *Dignāga, on Perception*, Cambridge, Mass., 1968.

Hemacandra. *Pramāṇamīmāṃsā* (ed. S. Sanghavi), Ahmedabad, 1939.

Hume, D. *A Treatise on Human Nature* (ed. L.A. Selby-Bigge), Oxford, 1951.

———. *An Inquiry Concerning Human Understanding* (ed. C.W. Hendel), New York, 1955.

Ingalls, D.H.H. *Materials for the Study of Navya-nyāya Logic*, Cambridge, Mass., 1951.

Jaimini-Sūtra with Śabara's Bhāṣya (ed. M.N.Nyāyaratna), Bib. Indica, Calcutta, 1889.

Jayanta. *Nyāyamañjarī* (ed. S.N. Sukla), Varanasi, 1936.

Jayatilleke, K.N. *Early Buddhist Theory of Knowledge*, London, 1963.

Jhalkikar, B. *Nyāyakośa*, Poona, 1928.

Īśvarakṛṣṇa. *Sāṃkhyakārikā*, with *Yuktidīpikā* (ed. R.S. Tripathi), Varanasi, 1970.

Jagadīśa. *Śabdaśaktiprakāśikā* (ed. D. Sastri), Varanasi, 1934.

Jāgadīśī, see Gaṅgeśa.

Kamalaśīla. *Tattvasaṃgraha-pañjikā*, see Śāntarakṣita.
Kaṇāda. *Vaiśeṣika-sūtra* (ed. Muni Sri Jambuvijaya), Baroda, 1961.
Kane, P.V. *History of Dharmaśāstra*, Vol. IV, Poona, 1953; vol. V, Poona, 1962.
Kant, I. *The Critique of Pure Reason* (tr. N. Kemp-Smith), London, 1933.
Kathāvatthu (ed. A.C. Taylor), London, 1894-1897.
Kaviraj, G. *Aspects of Indian Thought*, Burdwan, 1966.
Keith, A.B. *Indian Logic and Atomism*, Oxford, 1921.
Keśava Miśra. *Tarkabhāṣā* (ed. N. Kulkarni), Poona, 1953.
Kleene, S.C. *Introduction to Metamathematics*, New York, 1962.
Kneale, W and Kneale, M. *The Development of Logic*, Oxford, 1964.
Kumārila. *Mīmāṃsā-śloka-vārttika* (ed. R.S. Tailanga Manavalli), Varanasi, 1898.
Kundakunda. *Pravacanasāra* (ed. A.N. Upadhye), Agas, 1964.
Locke, J. *An Essay Concerning Human Understanding* (ed. A.C. Fraser), Oxford, 1894.
Lyons, J. *Introduction to Theoretical Linguistics*, Cambridge, 1968.
Mahāyāna-sūtrālaṅkāra (ed. S. Levi), Paris, 1907-1911.
Maitreya/Asaṅga. *Madhyāntavibhāga*, with Vasubandhu's *Bhāṣya* (ed. G. Nagao), Tokyo, 1964.
Mallavādin. *Dvādaśāranayacakra* (ed. Muni Sri Jambuvijaya), Bhavnagar, vol. 1, 1966, vol. 2, 1976.
Maṇikaṇṭha Miśra. *Nyāyaratna* (ed. V.S. Sastri and V. Krishnamacarya), Madras, 1953.
Matilal, B.K. *The Navya-nyāya Doctrine of Negation*, Cambridge, Mass., 1968.
———. *Epistemology, Logic and Grammar in Indian Philosophical Analysis*, The Hague/Paris, 1971.
———. *The Logical Illumination of Indian Mysticism*, Oxford, 1977.
———. *Logical and Ethical Issues of Religious Belief*, Calcutta, 1982.
———. (ed) *Nyāyasiddhānta-dīpa* Ahmedabad: L.D. Indological Series (Text): 1976.
———. and R. D. Evans (eds): *Buddhist Logic and Epistemology*,

D. Reidel (Studies of Classical India Series), Dordrecht, 1986A.

———. *Perception: An Essay in Classical Indian Theories of Knowledge*, Oxford: Clarendon Press, 1986.

Mill, J.S. *A System of Logic*, New York, 1881.

Mohanty, J.N. *Gaṅgeśa's Theory of Truth*, Santiniketan, 1966.

Murti, T.R.V. *The Central Philosophy of Buddhism*, London, 1953.

Nāgārjuna. *Mādhyamikakārikā*, with *Prasannapadā* of Candrakīrti (ed. P.L. Vaidya), Darbhanga, 1960.

———. *Vigrahavyāvartanī*, (Printed as 5th Appendix to the above).

Nāgeśa. *Paramalaghumañjūṣā* (ed. K. Sastri), Kurukshetra, 1975.

Nieuwenhuijze, C.A.O. van *Aspects of Islam in Post-Colonial Indonesia*, The Hague, 1958.

Nyāya-darśana. Nyāyasūtra of Akṣapāda Gotama, Adhyāya I, with *Nyāya-Bhāṣya* of Vātsyāyana, *Nyāyavārttika* of Uddyotakara, *Tātparyaṭīkā* of Vācaspati Miśra, and *Tātparya-pariśuddhi* of Udayana (ed. A. Thakur), Darbhanga, 1967.

———. *Nyāya-sūtra* (ed. G. Jha), Poona. 1939.

———. *Nyāya-darśana*, (ed. and tr. with notes by M. M. Phanibhusana Tarkavagisa, Calcutta, 1939 (1346 B.S.).

Pañcāstikāya. (ed. A Chakravartinayara), Arrah, 1920.

Patañjali. *Mahābhāṣya* (ed. Vedavrata Varnin), 5 vols., Gurukul Jhajjhar, 1962-1963.

Plato. *Collected Dialogues* (eds. E. Hamilton and H. Cairns), New York, 1963.

Potter, K.H. The *Padārthatattvanirūpaṇa* of Raghunātha Śiromaṇi, Cambridge, Mass., 1957.

Prabhācandra. *Prameyakamalamārtaṇḍa*, (ed. M.K. Sastri), Bombay, 1941.

Praśastapāda. *Padārthadharmasaṃgraha*; 1. with *Sūkti*, *Setu* and *Vyomavatī* (ed. G. Kaviraj), Varanasi. 1930.
2. with *Nyāyakandalī* of Śrīdhara (ed. D. Jha), Varanasi, 1963.
3. with *Kiraṇāvalī*, of Udayana (ed. J.S. Jetly), Baroda, 1971.

Price, H.H. *Perception*, London, 1951.

Pūjyapāda. *Sarvārthasiddhi* (ed. J. Sastri), Sodasapura, 1939.

Quine, W.V.O. *From a Logical Point of View*, Cambridge, Mass., 1961.

———. *Philosophy of Logic*, Englecliffs, N.J., 1970.

———. *Methods of Logic*, New York, 1961.
———. *Word and Object*, Cambridge, 1960.
———. *The Ways of Paradox and Other Essays*, Cambridge, 1976.
Radhakrishnan, S. *Indian Philosophy*, vol. 2, London, 1929-31.
Raghunātha Śiromaṇi. *Padārthatattvanirūpaṇa*, The *Pandit* Reprints, see Potter, K.H.
Dīdhiti, see Gaṅgeśa.
Rahula, W. *What The Buddha Taught*, Bedford, 1967.
Raja, K. Kunjunni, *Indian Theories of Meaning*, Madras, 1963.
Randle, H.N. *Fragments from Diṅnāga*, London, 1926.
———. *Indian Logic in Early Schools*, London, 1930.
Ratnagotravibhāga Mahāyānottaratantra-śāstra, (ed. E.H. Johnston), Patna, 1950.
Ratnakīrti. *Ratnakīrti-nibandhāvali* (ed. A. Thakur), Patna, 1957.
Robinson, R. *Plato's Earlier Dialectic*, Oxford, 1953.
———. *Definition*, Oxford, 1954.
Robinson, R. *The Buddhist Religion*, Belmont, Calif., 1970.
Russell, B. *Mysticism and Logic*, London, 1917.
———. *Introduction to Mathematical Philosophy*, London, 1919.
———. *Human Knowledge: Its Scope and Limits*, New York, 1948.
———. *Problems of Philosophy*, New York, 1958.
——— and Whitehead, A.N. *Principia Mathematica*, Cambridge, 1962.
Śabara: See *Jaimini-sūtra*.
Śālikanātha. *Prakaraṇapañcikā* (ed. A. Subrahmanya Sastri), Varanasi, 1961.
Samantabhadra. *Āptamīmāṃsā* (ed. G.L. Jain), Varanasi, 1914.
Saṃyuttanikāya. Part III (ed. L. Feer), London, 1890.
Sandhinirmocanasūtra (tr. from Tibetan into Sanskrit and French, E. Lamotte), Louvain, 1935.
Saṅghavi, S. *Advanced Studies in Indian Logic and Metaphysics*, Calcutta, 1961.
Śāntarakṣita. *Tattvasaṃgraha*, with *Pañjikā* of Kamalaśīla, (ed. E. Krishnamacharya), Baroda, 1926.
Śaśadhara. *Nyāyasiddhāntadīpa* (ed. B.K. Matilal), Ahmedabad, 1976.
Sastri, G. *The Philosophy of Word and Meaning*, Calcutta, 1959.
Sāyaṇa-Mādhava. *Sarvadarśanasaṃgraha* (ed. V.S. Abhyankar), Poona, 1951.

Siddhasena Divākara. *Sanmati-tarka-prakaraṇa*, (eds. S. Sanghavi and V. Doshi), 5 parts, Ahmedabad, 1924-1931.
Searle, J. *Speech-Acts: An Essay in the Philosophy of Language*, Cambridge, 1969.
Solomon, E. *Avidyā: A Problem in Truth and Reality*, Ahmedabad, 1969.
———. *Indian Dialectics*, Ahmedabad, 1976.
Śrīdhara. See Praśastapāda.
Śrīharṣa. *Khaṇḍanakhaṇḍakhādya* (N.K. Jha), Varanasi, 1970.
Śrīvallabha. *Nyāyalīlāvatī* (ed. D. Sastri), Varanasi, 1934.
Stcherbatsky, T. *Buddhist Logic*, 2 vols., Leningrad, 1930.
———. *The Central Conception of Buddhism* (Reprint), Delhi, 1974.
Sthiramati. See Vasubandhu.
Strawson, P.F. *Individuals*, London, 1959.
———. *Introduction to Logical Theory*, London, 1966.
Swartz, R.J. *Perceiving, Sensing and Knowing*, New York, 1965.
Takasaki, J. *A Study of the Ratnagotravibhāga*, Rome, 1966.
The Shorter Oxford Dictionary on Historical Principles, 3rd edn., Oxford, 1970.
Trenckner, V. *Milindapañho*, London, 1962.
Tucci, G. *On Some Aspects of the Doctrine of Maitreyanātha and Asaṅga*, Calcutta, 1930.
———. *Pre-Diṅnāga Buddhist Texts on Logic from Chinese Sources*, Baroda, 1929.
Uddyotakara. *Nyāyavārttika* (V.P. Dvivedin), Varanasi, 1915.
Udayana. *Ātmatattvaviveka* (ed. D. Sastri), Varanasi, 1940.
———. *Kiraṇāvalī* (ed. S.C. Sarvabhauma and N.C. Vedantatirtha), Calcutta, 1912, 1972. See also Praśastapāda.
———. *Tātparya-pariśuddhi*, with Vardhamāna's *Nyāyanibandhaprakāśa* (eds. L.S. Dravid and V.P. Dvivedin), Calcutta, 1911. See also *Nyāyadarśana*.
———. *Nyāyakusumāñjali* (ed. L.S. Dravid), Varanasi, 1912. (ed. N.C. Vedantatīrtha), Calcutta, 1954-1964.
Umāsvāti. *Tattvārthasūtra* with *Bhāṣya* (ed. K. Siddhantasastri), Bombay, 1932.
Vācaspati Miśra. *Tātparya-ṭīkā* (ed. R.S. Dravid), Varanasi, 1925. See also *Nyāyadarśana*.
Vādideva Sūri. *Syādvādaratnākara* (ed. M. Ladhaji, 4 Parts), Poona, 1927.

Vardhamāna. See Udayana.
Vallabha. See Śrīvallabha.
Vasubandhu. *Abhidharmakośa* with *Bhāṣya* (ed. P. Pradhan), Patna, 1967, (with *Sphuṭārthā* of Yaśomitra, ed. Dwarikadas Sastri), 4. vols., Varanasi, 1970-1972.
———. *Vijñaptimātratāsiddhi*, wi.h *Svavṛtti* and Sthiramati's *Bhāṣya* (ed. S. Levi), Paris, 1925. See also Maitreya/Asaṅga.
Vātsyāyana. See *Nyāyadarśana*.
Venkataramanam, K. *Sammitīya-nikāya-śāstra* (English trans. from Chinese), Visvabharati Annals, Vol. V, Santiniketan, 1953. pp. 153-243.
Vidyabhusana, S.C. *A History of Indian Logic*, Calcutta, 1920.
Vidyânanda. *Aṣṭasāhasrī* (ed. Vamsidhara), Bombay, 1915.
Vyomaśiva. See Praśastapāda.
Warder, A.K. *Indian Buddhism*, Delhi, 1970.
Whitehead, A.N. *Adventures of Ideas*, Cambridge, 1942.
———. *Process and Reality: An Essay in Cosmology*, New York, 1969.
——— and Russell, B. See Russell, B.
Yaśomitra. See Vasubandhu.
Yuktidīpikā. See Īśvarakṛṣṇa.

INDEX